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California State Journal of Medicine

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CONTRIBUTORS TO FIRST FOUR NUMBERS

Medical Clinics of North America

The Johns Hopkins Number (July): Theodore C. Janeway, Lewellys F. Barker, Herman O. Mosenthal, Thomas B. Futcher, Louis Hamman, Thomas R. Brown.

The Philadelphia Number (September): Thomas McCrae, Alfred Stengel, Hobart A. Hare, Joseph Sailor, David Riesman, Henry K. Pancoast, A. A. Stevens, Ross V. Patterson, Martin E. Rehfuss, Judson Daland, John A. Kolmer, John H. Musser Jr., T. H. Weisenburg, O. H. Perry Pepper, Jay F. Schamberg, Elmer H. Funk.

The New York Number (November): Warfield T. Longcope, Graham Lusk, Max Einhorn, Chas. Gilmore Kerley, Warren Coleman, Rufus I. Cole, Alfred E. Cohn, E. Libman, Harlon Brooks, Arthur F. Chace, William R. Williams, Homer F. Swift, Walter W. Palmer, Walter A. Bastedo, Lewis Gregory Cole, Oscar M. Schloss, Alfred F. Hess, Robt. Anderson Cooke, Walter L. Miles, Arthur L. Holland, H. Rawle Geyelin, James J. King.

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See the Archives of Internal Medicine, September, 1915, Vol. XVI, pages 389-405 and June, 1916, Vol. XVII, Part I, pages 840-851, also The Journal of the American Medical Association, May 20, 1916, Vol. LXVI, pages 1594-1596.—Reprints of these papers will be furnished upon request.

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California State Journal of Medicine

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VOL. XVI FEBRUARY, 1918 Number 2

ANNUAL MEETING AT DEL MONTE.

The annual meeting of the California State Medical Society will be held at the Del Monte Hotel, April 16, 17 and 18. A program of timely and unusual interest is being prepared. The place and season of the meeting insure a splendid outing for every doctor in attendance. Special announcements and a tentative program will be published next month. It should be the pleasure of every doctor in the state to attend this meeting if he can possibly do so. He is the one who will profit most by attendance. Give the matter serious thought and make your reservations early.

RAILROAD RATES:

A railroad rate of one and one-half lowest one way first-class fare per capita for the round trip on the receipt-certificate plan from all points in California, provided fifty (50) or more are in attendance, will prevail. When you buy your ticket to go to Del Monte, pay the full fare and get a receipt-certificate. When you get to Del Monte, present this to the State Secretary to be signed and then when you get your return ticket, hand this receipt to the agent and he will give you a return ticket for one-half fare.

Do not fail to get the receipt-certificate, or to have it signed by the State Secretary, for if you do, you have no redress.

Every delegate should make it his first business to attend this session as matters of the utmost importance will come up for consideration. Questions have arisen in which every member of the Society is vitally interested and the delegates who represent large numbers of our members who cannot attend, should be sure to be present, even if at a personal sacrifice.

Secretaries of county units should make it their special duty to attend this meeting so that they may be in a position to explain to their members just what was done and why.

County secretaries can talk more effectively to their members on Society matters by having attended this meeting.

Hotel Rates: Hotel Rates are on the American plan.

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Double room without bath, $10.00 per day, two persons.

Single room with bath, $6.50 per day, one person.

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SCIENTIFIC PROGRAM.

A large number of good papers have been secured for the coming meeting at Del Monte and a tentative program will be published in next month's Journal. Naturally in these times various problems connected with the war work are of paramount interest and accordingly arrangements have been made to have the same presented. There will be sufficient variety to the subjects, however, to insure the presentation of a program of unusual value and interest.

THE CONTROL OF CANCER.

Physicians should be more familiar with the excellent activities of the American Society for the Control of Cancer. The basic facts of the situation are of course, common knowledge among physicians. Cancer always starts as a purely local growth in which stage it is possible to remove and cure it. It is not a "blood disease." It is not contagious and probably not hereditary. It often causes no pain or localizing symptoms until well established. Complete and attentive examination is the obligation of the physician to every patient, more especially to that patient who may conceivably be the victim of cancer. Early consultation with a physician is the obligation of every individual who has any departure from normal physical and mental health, more especially in the years where cancer is more frequent. Statistics seem to indicate definitely that cancer is increasing, above the amount to be explained by increased accuracy of diagnosis and report.

Various agencies are available for the physician in his campaign against the spread of cancer. The chief is perhaps the education of the public in the importance of early careful diagnosis, and especially in the serious danger of cancer quacks, such as Chamlee, for instance, who was discussed a few months ago, and of advertised cures and treatments. With the diagnosis certain, no cure is safe which does not comprehend the immediate and complete ablation of the cancerous tissue. Such public education is being directed by the American Society for the Control of Cancer, and should be encouraged by the medical profession, individually and through its various organizations. It includes personal instruction by the physician, newspaper and magazine publicity, and public lectures by qualified speakers. These latter can secure the syllabus of a lecture entitled, "The Control of Cancer," from the American Society, and also the use of lantern slides.

Another important agency is exercised by the nurses of the country, especially those engaged in public health work. Their advice is not infrequently of great weight with the public. Instruction in the early recognition of cancer should be given in all schools of nursing, so that the danger signs may be recognized by the nurse and the victim promptly referred to competent medical attention. The various women's clubs and organizations may become a valuable agency in this propaganda if they will do so. Local physicians could well bring this matter to the attention of the proper persons to secure such publicity.

The practicing physician does not need to be conversant with all the details of cancer research, constructive and interesting as these are. He does need to recognize the importance of early diagnosis and adequate treatment, if the death rate from cancer is to be reduced. He will find some or all of the agencies mentioned, available for his use in this connection.

INSURANCE AND THE INDEMNITY DEFENSE FUND.

We have been greatly surprised to learn that some of our members are under the present impression that the Council and Legal Department of the society have recommended to the members that their insurance be dropped upon joining the Indemnity Defense Fund.

This is erroneous. Neither the Council nor the Legal Department has at any time advocated such a course. On the contrary our Legal Department has at all times cautioned members who were carrying insurance to continue the insurance and has recommended that they join the Fund as well, but as to all members who had no insurance, the recommendation has been that they join the Fund.

The officers and representatives of the society have not been able to bring the advantages and benefits of membership in the Fund sufficiently to the attention of all of our members as yet, and the membership therein is not nearly as large as it will be when these facts are clearly before the personnel of our organization. For this reason, and because our advisors desire to secure more complete records of our experience, and by reason furthermore of the increasing tendency to assert malpractice claims, our officers and legal department have held to the course outlined above.

Therefore, as we have heretofore said, and we thought with sufficient plainness, and which we here repeat, the society does not advise any member to cancel or give up his insurance upon becoming a member of the Fund, but on the contrary, to continue his insurance and to join the Fund as well.

In addition to the many advantages of membership in the Fund which we have heretofore pointed out in these columns, we direct special attention to the resolution adopted at the meeting of the Council held at Los Angeles November 24, 1917, regarding Medical Defense Rule No. VI, which rule heretofore provided that if a member had insurance covering malpractice claims or suits, he must elect whether the society or the insurance company shall undertake his legal defense. The modification made by resolution at the recent Council meeting, abrogates the rule in cases of Contributing Members. Therefore a member who has insurance and who has joined the Fund does not, in cases covered by both his insurance and his membership in the Fund, have to elect regarding the conduct of his defense. His defense will be undertaken and conducted jointly by the insurance company and the society. The benefit of this course to such members is, we believe, so obvious that we will not comment further about it.

OBSESSIONS OF THE NORMAL MIND.

It is a truism that the frontier of normal psychology merges easily with the abnormal. Many mental traits which do not appear prominently in a well-balanced mind become pathological by exaggeration alone. If we are to accept Freud's explanation, it would appear that lines of mental activity which are uncomfortable, or unpleasant,

either intrinsically or because of their associations, are concealed and repressed in the sub-liminal consciousness and by their occasional irregular defensive or expressive outbreaks, cause these borderline symptoms, which to a small degree characterize a large proportion of normal persons and to a larger degree characterize a large proportion of abnormal persons.

In such a semi-pathological classification may be placed certain minor forms of loss of memory, such as the sudden inability to recall the name of a person or article, certain tricks of the tongue which pervert what was intended to be said, certain kinds of errors both of judgment and of deed, and finally certain fixed ideas which, in a surprisingly large number of normal persons, come into the mind unsolicited and cannot be banished voluntarily.

Such obsessions of the normal mind are the subject of a suggestive note by C. S. Berry in the Journal of Abnormal Psychology.[1] The data compiled are drawn from a study of the written answers to appropriate questions asked of about 200 mature students of educational psychology. A typically grotesque and interesting list of fixed ideas was obtained, often associated characteristically with fatigue, either mental or physical, and apparently partaking in some cases of the elements of illusion, hallucinosis and dreams. About 25% of the 200 had at some time had fixed ideas.

Some noted ideas closely bordering on imperative ideas, such as an impulse to jump over a precipice or before a moving train. Berry makes two comments. (1) In many cases, with no outside aid, the obsession runs a self-limited course, and tends to disappear or at least to lose its emotional force. (2) In a large percentage the obsession dates back to childhood. Berry rightly urges the value of a careful scientific study of normal obsessions, not alone for the direct data to be obtained, but also for the light it would throw on their relation to pathological obsessions.

THE VASO-MOTOR SYMPTOMS OF THE MENOPAUSE.

In spite of the great advances of modern physiology and, especially, of the assistance given our understanding of the physiological disturbances connected with cessation of ovarian and testicular secretion by recent laboratory studies, there is much as yet unexplained in the symptomatology of the menopause. This is a matter of importance to every medical practitioner as the disorders and discomforts of this period have a striking nervous as well as physical effect. Particularly are the vaso-motor symptoms hard to control and vexatious to the patient.

Culbertson has recently made a study of this subject,[2] and his findings throw light on the causation especially of the vaso-motor disturbances and on a rationale of effective treatment. He explains the somatic and psychical disorders as the result of perverted function of the endocrine glands due to lack of ovarian secretion. The psychic features are especially due to the disturbed thyroid function, usually bordering on hyper-thyroidism but less commonly being the reverse.

This writer considers the vaso-motor symptoms to be due to an instability of the blood pressure, which usually appears as a "vacillating hyper-tension, both systolic and diastolic." He finds that the diastolic pressure is less increased than the systolic and thus results in a larger pulse pressure which is the immediate cause of the symptoms, associated with the vacillating arterial pressure. In the fewer cases where there is a hypo-tension, there is still an increased pulse pressure and a similar vacillation of pressure. The hyper-tension seems referable to excessive suprarenal or hypophyseal secretion. The blood pressure can be gradually brought to normal by the exhibition of the hormone contained in corpus luteum extract from animals in early gestation, and with this the vaso-motor symptoms disappear. Culbertson supports the view that the pressure changes are functional only, by the fact that the appropriate treatment with organ extract produces a return to normal and that there is a definite disproportion between the rise in systolic and diastolic pressure. He advises the control of the treatment by frequent, preferably daily, pressure readings.

[1] April-May, 1916, p. 19.

[2] Surgery, Gyn., and Obstet., Dec., 1916, p. 667.

EDITORIAL COMMENT.

Los Angeles county is the seat of a valuable innovation in public health work which, so far as our information extends, is the first instance of its kind in the west. In its usual pioneering style, the New York City Board of Health has for some time been doing similar work. Dr. J. L. Pomeroy, Health Officer of Los Angeles county, has had produced, in motion pictures, the story of diphtheria spread and control, and the 1100 feet of the film are to be used widely in that county at motion picture theaters as a measure of public education in the proper means of control of this disease. The pictures appeal to the lay intelligence in a fashion which is more authoritative and better remembered than either lecture or bulletin. These or similar films should be in the armamentarium of every health officer in the state. Those counties which cannot produce their own would do well to arrange for the loan or rental of films already made. See description under Los Angeles county news.

Why should not every doctor in the United States who is mentally, physically and morally fit, be in the M. R. C.? In the immediate future the Medical Reserve Corps must be immensely augmented and so as to enable the Surgeon-General to have at his command for immediate assignment, as conditions demand, a sufficient number of trained medical officers, let us take the above thought seriously. The German war depends for its success as much upon the medical profession, as upon the combatant forces, and while we do not know that any such intention as herein suggested, is in the mind of the Surgeon-General, it would at least give him the necessary corps of medical officers, from which to draw, and would serve the best interests of our country, and the best interests of the medical officers themselves.

Social and health insurance are topics of pertinent concern to the physicians of the state. The principle may be wrong, or inadequate or even unnecessary, and social insurance may be to the disadvantage of the individual doctor, especially in rural and small town communities. It may be unsound economically and will certainly require special safeguarding politically. But whatever its disadvantages, and they are many, it has certain merits and the fact is to be remembered that legislation establishing some form of social insurance seems certain to be enacted in California in the near future. If the medical profession does not direct and help work out this legislation, the profession will have only itself to thank for any injustice or disadvantage which may arise out of its operation. Whether we believe in the principle or not, we should be informed of the various features involved and be prepared to give intelligent and constructive criticism in the crisis approaching. By correspondence and special articles, it is urged that every point of view and argument pro or con, be sent to the JOURNAL for the use of the profession of the state.

Considerable attention has been devoted recently in the medical press to the food value of the banana. The banana has a high content of available and easily assimilable carbohydrate and forms an excellent food for adults and children alike. It is only necessary to be sure that the skin is unbroken and the fruit thoroughly ripe. The housewife has not begun to realize the possibilities of the banana in cookery. Many appetizing and nutritious dishes can be prepared from it. Details of such preparation can be secured on inquiry. Moreover it is to be remembered that the banana has, perhaps, advanced in cost as little as any staple article of food and is among the cheapest and best food sources now to be had.

Will you please once more scan the list of county editors and then turn to the department of county news and see how well each is doing his work. Fifteen counties are not yet represented and their tardiness in electing their associate editor is a reflection on them and a handicap to the work of the state organization in the development of the JOURNAL. Please let every line be filled by the next issue.

Several deaths have been reported as caused by gases discharged by the exhaust pipe of internal combustion engines. In two cases the victims had kept the engine of their automobile running while the car was in a small garage whose doors were closed. These accidents call renewed attention to the poisonous character of the exhaust gases, and should serve as a warning to all car owners. Incidentally they emphasize the danger of using the exhaust gases for heating purposes, as is done in some of our public conveyances. Unless extreme care is exercised a leakage of gas is liable to occur with a consequent exposure of passengers to the poisonous gases.—N. Y. Dept. of Health.

Special Articles

THE ARMY MEDICAL EXAMINATIONS OF THE FIRST DRAFT.

By HARRY B. REYNOLDS, Major M. R. C.,
Medical Examiner for 91st Division, N. A.

The mustering of the first draft of the National Army is now completed, and the data is available on which may be based fair judgment of the efficiency of the machinery employed. Approximately forty-eight thousand men have been received at Camp Lewis. They have come from Montana, Wyoming, Idaho, Washington, Oregon, California Utah, Nevada and Alaska.

In general certain statements may be made not entirely pertinent to the medical subject of this paper, but of extreme interest to the thousands of patriotic citizens behind the army. It has been a matter of the keenest admiration of the Mustering Office to see the unfolding of the marvelously efficient plan of the Provost Marshal General. To devise and perfect the system, to foresee the difficulties and complications, to plan for the correction of errors due to untrained citizen personnel is recognized as an enormous task that has been marvelously accomplished.

Secondly, the work of the local boards has come to be recognized in this office as a highly satisfactory accomplishment.

To develop an organization during the progress of an essential task is a difficulty undertaking. Many of the complications were foreseen and provided for. Many more have been encountered that were not foreseen and it is safe to say that the next draft will be handled on a higher scale of efficiency. The patriotic zeal of these boards is highly commendable, and when the enormous total was appreciated and the small percentage of error was realized and when the total draft was examined and a survey made, results were very gratifying.

The cases of error in certification aggregated a total that was all too large and that should certainly not be repeated in future drafts. That it may be avoided, an analysis of the causes may be of value.

1. Many local boards were overworked or furnished inadequate time, personnel or equipment. In this way the quota of the City of Butte was estimated on a basis of 43,000 population and when it was realized that 93,000 was a closer estimate the quota was commensurately increased with no increased allowance in personnel or time. In consequence Butte sent in many errors due to this cause.

2. Cases were certified on which the examining physicians disagreed. When one man was rejected, the second examination was often required. The second examiner frequently recommended acceptance when the physical defect was very evidently disqualifying. These cases were fairly frequent. They can be explained on one of two counts, either the doctor was unfamiliar with army qualifications or he was openly and culpably favoring a candidate.

3. In certain instances of fairly frequent occur-

rence both examiners recommended rejection and yet the Board took it upon themselves to certify the candidate. Frequently an explanatory notation was made, as exemplified in the case of a man with evident and active tuberculosis where the clerks naively noted, "the man is technically disqualified but I believe the change will help him." Another man with a weight only slightly over a hundred pounds was certified with the note, "the exercise will do him good." Incidentally the man is expected to do a day's march with a load equal to half his body weight. These errors, too, are individual. In some cases the wrong has been so gross as to evoke an expression of a minority vote of a member against the certification.

4. In some cases the open accusation of favoritism, supported by seemingly sufficient evidence, has been noted. These, however, have been very infrequent and it merely expresses the irreducible minimum of injustice and corruption in human nature and is in no way a commentary on our American citizenship.

Eleven per cent. of the men sent to Camp Lewis have been sent home. This means 5200 men. It is undoubtedly high and yet many have gone through this office on trial who have later been discharged on certificate of disability. These will add another two per cent. In other words, more than 6000 men have been sent here at large expense to the Government and at the needless discomfort of the men themselves and the dislocation of their business affairs. It is difficult to say what a normal or justifiable percentage of rejections should be. Personally I am more tolerant of error than at the beginning of the work, for certainly there have been cases accepted in error by our office whose acceptance is in no way justifiable. These are due to clerical errors, confusion and haste, and yet they are errors for which I would have had little sympathy at the beginning of the muster work.

I believe the greater familiarity of the Examiners and Boards with the work, a keener appreciation of army standards, the elimination of inefficient examiners and men of the politician class, should reduce the rejections to six per cent. of the next draft.

The following table is compiled to show the chief causes of rejections in the order of their frequency. A careful study of the figures will enable the local examiners to see wherein they have been at fault and to avoid the repetition of the errors in the subsequent drafts.

PERCENTAGES OF REJECTIONS.
WITH CAUSES.

Total examined to Nov. 22, 1917		46,750	
Total rejections		5,310	
Per cent. rejected to Nov. 22, 1917		11.3%	
Individual causes for rejection with percentages are as follows:			
Eyes:			
Vision	651		12%
Strabismus	40		
Ears:		698	
Hearing	33		
Otitis media with dischg	238		4%
		271	
Defective teeth		379	6%
Deficient weight		611	12%
Deficient height		18	
Deficient chest measurements		20	
Hernia:			
Inguinal	451		
Post operative	41		
Others	6		
		498	7%
Undescended testicle		113	2%
Varicocele		3	
Tuberculosis pulmonary	294		6%
Chronic bronchitis	18		
Pleurisy	13		
Old empyema	58		
		383	7%
Organic heart		405	7%
Flat feet	162		
Pes cavus	7		
Other deformities	103		
		272	
Goitre:			
Simple	48		
Hyperthyroidism	52		
		100	2%
Asthma		47	1%
Fractures with bad results		21	
Ankyloses:			
Elbow	91		
Shoulder	11		
Wrist	19		
Knee	37		
Fingers	43		
Ankle	53		
		254	5%
Deformities:			
Hip	7		
Leg	71		
Hand	101		
Atrophy of leg	10		
Shoulder	7		
Miscellaneous	71		
		267	5%
Internal derangement of knee		26	
Spinal deformities:			
Kyphosis	22		
Scoliosis	17		
Ankylosis	7		
Potts (healed)	5		
Arthritis	6		
		57	
Osteomyelitis		11	
Arthritis:			
Sacro iliac	4		
Hip	4		
Ankle	2		
Knee	7		
Shoulder	2		
Miscellaneous	84		
		103	
Neuro pschiatric:			
Mentally deficient	83		
Temperamentally unfit	31		
Insanity	13		
Epilepsy	23		
Tabes	5		
Stammering	15		
Paralysis agitans	1		
Multiple sclerosis	6		
Syringo myelia	1		
		178	

Syphilis	75
Incomplete rec. from operation	9
Loss of fingers	93
Physically deficient	31
Tumors	20
Skin Diseases	29
Congenital defects	21
Eneuresis	6
Drug user	7
Rheumatism	7
Tuberculosis other than lungs	26
Varicose veins	67
Hemorrhoids	28
Miscellaneous	124

Six hundred and fifty men is too many when the vision tests can be so readily applied and the standards for acceptance are so clearly stated.

Discharging ears numbered two hundred and seventy-one. Many of these were evident by odor and by vision without a speculum. More than six hundred men were rejected for defective weights. With scales and a clearly marked standard none of these should have been certified. It might be well to direct attention to the fact that 110 pounds is the minimum and that the minimum figures given for different weights in the tables represent the irreducible minimum. Careful reading of the instructions for physical examinations and of memorandum 9 shows that no further allowances or reductions are permitted. Directions regarding height also seem ludicrously simple. Careful examination should discover practically all the hernias of any size. They are always disqualifying, yet more than 500 cases were rejected for this cause alone.

There is more excuse for certifying men with organic hearts to the number of 400. There is more room for opinion in these cases and standards are not so clearly established. However the English and Canadian Army have found that many of these seemingly compensated old organic hearts break down in service, and are now drawing the lines close.

Tuberculosis, ankylosed joints, painful union of fractures, painful flat feet should be excluded. It is to be remembered that not all pronated feet are disqualifying flat feet.

The table below shows the percentage of rejections by states. It can be seen at a glance that the errors were very evenly distributed over the states and that the mistakes were apparently due to the inexperience or misunderstanding on the part of the examiners everywhere.

PERCENTAGE OF REJECTION BY STATES.

	Quota sent.	Rejected.	Percent.
Nevada	1,051	103	9.08%
Montana	7,877	807	10.02%
Idaho	2,287	253	11.06%
Washington	7,296	810	11.10%
California	23,060	2,639	11.44%
Oregon	717	83	11.57%
Utah	2,370	299	12.02%
Wyoming	805	101	12.05%
	45,463	5,095	11.02%

In general it may be said that the Government wants strong men with vigorous physique and endurance. This consideration, with careful study of the instructions, should avoid a repetition of the errors of the last draft.

Finally it may be said that the Western and North Western States have produced a division of some 35,000 men that equals any similar body of men in the world. No one could have stood as I did a week ago and see this division pass in review before the commanding general without a thrill of pride and an assurance that this husky, willing, patriotic body of men will go a long way toward making the world safe for democracy.

Sanitary Train, 91st Division, Camp Lewis, Wash.

TENTATIVE REPORT ON SOCIAL INSURANCE.

By Committee of Los Angeles County Medical Society. DR. WILLIAM WENZLICK, Chairman; DR. J. ROSS MOORE, and DR. T. PERCIVAL GERSON.

INTRODUCTORY REMARKS BY THE CHAIRMAN.

The purpose of a Health Insurance Act is to enable a wage worker to meet the expenses of his illness and to compensate him to some extent for the loss of his wages, upon which he and his family depend for their sustenance.

The other object of Health Insurance, the greater of the two, not only directly benefits the worker, but also the public in general, by improving living, housing and factory conditions in the effort of lowering the rate of insurance contributions on the part of the employees and employers, thus assisting State and County Health Departments.

The argument that compulsory insurance is not consistent with American liberty seems contrary to facts, for we actually have compulsory insurance at present, though not called by that name, nor as efficient as it should be. The people namely, are made up of employers and employees compelled by the state to pay taxes for the support of state and local health measures under direction of our many health departments, our hospitals, asylums, dispensaries, and all kinds of charities so odious to the laborer who wants justice.

The liberty of the wage-worker differs from that of his European brother principally in his right to refuse the starvation wages, if he is willing to join the great army of the unemployed on their way to the Potter's Field. The employer has the right and is at liberty to increase his profits by securing younger and more efficient help. In the slavery of other times, the superannuated were cared for as a recompense for their former services.

The poor as ultimate consumers pay all the taxes, expenses and profits of the men who own all the property, and also pay the taxes for the charity doled out to them. What slavery is more abject and humiliating than such individual liberty? In primitive times the individual considered *himself* only, in a higher civilization the individual must yield to social justice. Like a chain that is no stronger than its weakest link, so the degree of a community's civilization may be estimated by the welfare of its poorest class.

In Europe compulsory social insurance prevents all this inhumanity. Shall a free people be more intolerant of social progress?

The medical profession has the reputation of being altruistic, of furthering prophylactic and sanitary measures at the expense of its members, who also give their professional services gratis to the needy, because the practice of medicine is a profession and not a business. We will not forget our many civic duties.

While social insurance may not altogether remove poverty and unemployment and their sequences of disease, vice and crime, as might be done by means of a Federal Farm School in every state for the unemployed who, when found able to support their dependents, be allotted farms in severance, yet social insurance is a step in the right direction, especially if adopted by all the states and culminating in uniform federal laws.

Let us not be intolerant of those who are less conservative because of new though progressive ideas; on the contrary let us be prepared to meet any emergency in case a State Health Insurance Act should be proposed. Let the profession too be ready to take an intelligent stand for its own interests and for that of the public.

We must act in harmony and come to some conclusion one way or another. Adverse criticism is as important as favorable views in clearing up many difficulties that confront us because of the numerous details and factors which enter into this complex subject. Let us finally agree on some plan and be "a unit" as Dr. Gibbons urged.

If we favor Health Insurance we will be obliged, in all probability, to take into the panel every licensed practitioner. We must not let the public think that we have no sense of civic duty or public interest for our commonweal. We must not be entirely absorbed in our own affairs, although we rightfully should protect our interest as much as possible when not conflicting with our public duty.

If we came to the conclusion that the measure should be defeated, then let it be known that we are heartily in favor of Health Insurance, but for the people's good and the community's health, it is necessary to appoint all officers and members of the panels from the regular profession to the exclusion of homeopaths, eclectics, osteopaths, and others. The 6000 physicians of California will then surely be opposed by many of the 3,000,000 inhabitants of our great state. In either case our motives will be questioned.

The State Social Health Insurance Committee of the Los Angeles County Medical Association approves of the following features of a tentative health insurance act, based on one recommended by the Committee of State Social Insurance of the American Association for Labor Legislation, i. e.:

1. Compulsory State Insurance for wage workers earning less than $100 per month.

2. Voluntary State Insurance for those earning more.

3. Care by the State of the unemployed, and by the State and employers of all wage workers getting less than $40 per month, and of all casual employees.

4. Benefits are to be paid in case of sickness or accident or for death not covered by workmen's compensation.

5. Minimum benefits to consist of medical, surgical and nursing attendance; medicines and surgical supplies; cash benefits; maternity benefits; funeral benefits and medical and surgical attendance and medicines for dependents.

6. Medical services shall be provided by the district funds with approval of commission, by means of a panel composed of all legally qualified practitioners residing in that locality.

7. *Free choice of practitioners* shall be accorded the insured.

8. The number of insured a practitioner may treat shall be limited to one thousand persons or to five hundred families.

9. Each district is to have a *medical officer* as referee to provide certificates of disability and supervise medical service.

10. *Medical Supplies,* etc., are not to exceed $50 per insured within one year.

11. *Hospital Treatment* shall be given when necessary in place of other benefits, with a cash benefit to dependents equal to one-third of wages of insured member for the family while the insured is in the hospital.

12. The *Cash Benefits* of insured are not to exceed twenty-six weeks a year.

13. *Periods of Payments* should be weekly or semi-monthly.

14. *Maternity Benefits* are for eight weeks, six of which are to be after delivery if insured abstains from work for that length of time.

15. *Funeral Benefits* of $50 shall be allowed to next of kin, though six months have not elapsed after exhausting the sick benefit for the year.

16. The *Insurance* shall be *extended* when contributions have ceased because of unemployment not due to sickness and shall continue in force one week for each month of paid up membership.

17. *Division of Expenses* are to be met by the State contributing 10% of the total expenses; 50% by the employee and 40% by the employer.

18. The *Amount of Contributions* shall be computed to meet expenses of administration of the fund and reserve fund, and for payment of benefits.

19. The *Rates of Contribution* shall be the percentage rate according to industrial and sickness experience.

20. *Insurance Carriers.* The Commission shall *divide* the *State* into *districts* of not less than 5,000 persons with one or more local funds for each district.

21. The *Insurance Commission* shall *authorize* the funds after approval of constitution, etc.

22. The *Fund* or *Carrier* is to have the necessary *power* to carry on its duties, to have a constitution containing name, location of fund, trade, if such, etc.

23. The *Committee of the Fund* is to consist of not less than twenty members, elected annually in equal numbers from employer and employee members.

24. The *Board of Directors* is to be elected

by the committee of the fund, consisting of no less than eight and no more than eighteen directors, one-half by employers, the other half by the employees.

25. A *Reserve Fund* is to be accumulated by the board of directors; 1-20 of the annual income until reserve equals 1-6 of the total expenditure for the preceding three years.

26. The employer must *pay* to local or trade fund, at least monthly *contributions* due from him and his employees, deducting the worker's dues from his wages.

27. *Membership in Fund.* Every person subject to insurance must be a member, unless he be a member of an approved society.

28. An *Approved Society* may be a labor union, benevolent or fraternal society, or an establishment society, if approved by the commissioner.

Such society must not be carried on for profit; must not be under control of insured members; must be in a sound financial condition; must not endanger the existence of any local or trade fund.

29. *Employer's Contributions* shall be the same to the fund, though employees are insured in labor unions, benevolent or fraternal societies.

30. The *State* is to *contribute* to every approved society 1-10 of the total expenses.

31. A *Health Insurance Union* may be formed from two or more insurance carriers controlled by the Commission.

32. The *Guarantee Fund* consists of 10% reserved by the Commission from the contribution of the state to the carriers for the relief of any carrier if an emergency should arise in the judgment of the Commission, because of epidemics or other unusual conditions.

33. *State Supervision.* The *Social Insurance Commission* is to consist of three Commissioners appointed by the Governor, one of whom is to be a physician. Each Commissioner is to devote his entire time to the duties of his office.

34. The Commission shall appoint a *Secretary,* officers, and other assistants, and employees as may be necessary. All of them to be under Civil Service rule.

35. The Commission is to receive a *salary;* the Commissioners and the subordinates are entitled to actual and necessary expenses while traveling on business, the expenses are to be paid out of the State Treasury upon vouchers signed by at least two Commissioners. The office shall be in the capitol, and branch offices as advisable in other cities.

36. Any *Commissioner* can conduct inquiry or hearing, etc., which the Commission is authorized to do, if approved by the Commission.

37. The Commission is to make a *report* to the Governor which he shall lay before the Legislature, giving statistics of their work, and recommendations if desired.

38. The *State Social Insurance Council* shall consist of twelve members; an equal number from employers and employees.

39. The *State Council* is to elect its own president; the Secretary of the Commission is to act as secretary of the Council.

40. The annual report of the Commission and its recommendations shall be laid before the Council, before transmission to the Governor. The Council may approve them or make a separate report.

41. A *State Medical Advisory Board* shall be chosen by the state medical societies. It is to be consulted on medical matters.

42. *Disputes shall be settled* by the Social Insurance Commission on appeal from proper authority or carrier. The Commission may assign any dispute to a *Dispute Committee,* composed of employer and employee members of the Council and a member of the Commission as chairman. Either party may appeal from Dispute Committee to the Commission within 30 days.

43. *Medical Disputes* regarding benefits appealed to Commission shall be referred to the Medical Advisory Board, which is to report to the Commission.

44. *Suits at Law* which can be appealed to the Commission shall not be taken to court until decided by the Commission.

Original Articles

TUBERCULOSIS OF THE EYE.

By PHILIP H. PIERSON, M. D., San Francisco, Cal.

The object of this paper, written as it is by an internist, is four-fold—(1) to briefly touch on the blood supply and lymphatics of the eye, illustrating the probable method of infection and spread of tuberculosis; (2) to describe the main characteristics of the most frequently encountered tubercular lesions; (3) and of chief importance, the method at our disposal for diagnosing stubborn and puzzling eye conditions where tuberculosis should be considered; and, lastly, treatment and prognosis.

Tuberculosis in the eye as in other parts of the body, is spread in one or all of three ways; chiefly by the lymphatic system producing tubercles with their attendant consequences—enlargement, caseation and breaking down, less frequently by the blood stream transmitting the toxins more often than the bacilli to vascular organs (except in miliary tuberculosis), and, lastly, by contact. This last method is more correctly the local progress of the disease than its entrance into one or more parts of the body.

First let me take up the lymphatics of the eye. In the lids there are lymphatic channels anterior and posterior to the tarsus which intercommunicate and drain to the preauricular, submaxilary and anterior cervical glands. It is for this reason that these glands are generally involved, in lesions of the lids proper or the conjunctivae. The cornea contains practically no blood vessels or lymphatics, but there are clefts between the layers of the epithelium which are easily invaded by toxins or bacteria circulating in the blood vessels which are present and terminate in anastimoses at the corneal edge of the sclera. It is probably in this way that lesions occur in the cornea. They may also be the result of contact with the iris when this is involved. Another important lymph circulation is found in

the blood vessel walls of the choroid. These verticose veins have an endothelial lining but no muscular coat whatsoever. Outside this endothelial lining there are lymph spaces—the so-called perivascular lymph spaces of His. Is it not very probably due to these lymphatics rather than the blood stream that we find tubercles singly or miliary of the choroid and from this diseased condition of the choroid the so-called retinitis proliferans with hemorrhage in youth. These perivascular lymph spaces communicate and make their way about the lamina cribrosa into clefts in the sheath of the optic nerve. From this point they penetrate into the lymph spaces existing between the pia, arachnoid and dura, which are continuous back over the brain surface. There are channels in the sclera which intercommunicate and pass to the outer surface of the sclera and drain extraduraly. It is by this path that tubercles of the choroid occur in the terminal stages of tubercular meningitis. Whether or not the hyaloid canal exists after fetal life as a communicating canal from the anterior to the posterior part of the eye is a question. Iris and ciliary body lesions may be toxic due to the vascular condition of these structures or here we may have a blood born infection. In tubercular lesions of the iris we sometimes find that it is adherent to the cornea (generally if proper care has not been taken to prevent it), and a tubercular lesion in the cornea results from direct extention. This brief description of the lymphatics I trust may make the source and correlation of some of these eye lesions more evident. Allow me here to emphasize the lymphatic system as a harborer of latent tuberculosis, and the lymphatic glands of the body should always be investigated as the possible and probable focus for eye tuberculosis, even in the face of an evident lung or bone condition.

The frequency with which tuberculosis affects the eye has been estimated as far back as 1885 by P. H. Mules as 1 in 33,000 eye patients, more recently by Eyre as 1 in 2,700, and in 1913 by Stephenson as 1 in every 1000 cases. From this it is easily seen that while it is not a frequent manifestation of tuberculosis it is becoming more frequently recognized. This I believe is due to our increasing knowledge of how tuberculosis spreads and especially to the more general use of tuberculin as a diagnostic and therapeutic agent.

Let us briefly consider tubercular manifestations in the conjunctiva, cornea, iris and choroid as being probably the most frequent sites in the eye. The first definite case of conjunctival tuberculosis was described by Koester in 1873. It is estimated by Eyre as occurring in 1 out of every 3,000 eye cases and by Lagrange as in 1 out of every 7,500 cases. It is a disease generally met with in persons under 30, more often unilateral, and may be primary according to Ayrand, or secondary to extension from the lacrimal sac or elsewhere in the body. A case was reported by Gourfein in which no other tuberculosis was demonstrable and which later developed brain and pulmonary tuberculosis. When primary the organism gains entrance through some abrasion in the conjunctiva. It is found more often on the tarsal conjunctiva and may be one of three types—nodular, ulcerating or vegetating. If nodular it presents a red, swollen, hard, gristle-like granule, the size of a millet seed. If there are several they may unite, casefy and ulcerate. The edges of the ulcer are irregular and it is covered with a yellowish grey fibrinous film. When this is situated near the palpabral border cicatrising deformities may ensue. In the vegetating type there is either a cock's comb vegetation or papillary pseudo trachomatous condition. In all these types there are but few reactionary signs or symptoms. The patient may have the sensation of a foreign body in his eye but no pain; his lid may be slightly swollen and the bulbar conjunctiva echimotic. There is lacrimation and a slight muco purulent secretion. There is practically always glandular involvement, taking in first the preauricular glands, then the submaxillary, and later all the cervical chain. This insidious onset is followed by very slow development. The vegetating type is generally benign, but the ulcerating type is serious and, according to Armaignac, is complicated by laryngeal and pulmonary tuberculosis, according to Gourfain by cerebral and pulmonary manifestations, meningeal in the experience of Manz and Hock, and articular and pleuro-pulmonary in the observation of Kalt. A tubercular condition of the conjunctiva may extend from a nasal lupus which is more frequent in children. About 7-8% of all lacrimal ducts excised are tubercular, according to Jaulin, Rollet, and other observers. In lupus glandular involvement is not present except where there is secondary infection. The differential diagnosis in such a condition as described above, lies between:

Granular conjunctivitis.

Syphilis—a chancre resting on an indurated base and a gumma, which according to Trousseau has no glandular enlargement.

Sporothrix, which can be established by laboratory smears.

Epithelioma.

Parinauds conjunctivitis, which generally heals spontaneously without ulceration, and

Phlyctenular conjunctivitis.

This last condition has and will continue to be the cause of discussion as to whether it is tubercular or not. Pyfer considers it a tuberculous manifestation rather than an actual tubercular lesion. Derby found 73%-83% positive tuberculin reactions in this condition. So far as I have been able to ascertain phlyctenules do not contain tubercle bacilli, nor injected into animals do they cause tuberculosis. They are very frequently found in the scrofulous child, this condition being due to tuberculosis or a chronic focal infection in teeth, tonsils, etc., or in tuberculous adults—more of a reaction to their lack of general resistance than to an actual tubercular disease. The treatment of conjunctival tuberculosis consists in excision of the diseased area when it is local and there are no involved glands, cauterization and sometimes scarification and curetting. I shall speak of tuberculin treatment as a whole in a few minutes.

Interstitial keratitis was described by McKenzie as far back as 1830 as "Scrofulous corneitis." As a primary disease of the cornea it does not exist.

Whether the organisms or their toxins cause corneal lesions is still doubtful, according to Fuchs. Verhoff produced a tuberculosis of the cornea in the eye of a rabbit by injecting dead organisms into the aqueous humor of the anterior chamber and in three months found lesions similar to those seen clinically coexisting with small tubercles of the iris and ciliary body. Clinically it is found together with conjunctival or irido-ciliary lesions. The superficial or ulcerating type is found coexistant with nasal conjunctival lupus or palpebral conjunctivitis. On the cornea there are greyish yellow nodules causing the cornea to look roughened. By their coalescence ulceration takes place. The infiltrated or deep form follows in iris lesions and resembles an interstitial keratitis of luetic origin, differing from it nevertheless in that the latter leaves practically no opacities, while tuberculosis after healing leaves the infiltration of lymphocytes and their resulting haziness. The pathology of these lesions is an infiltration of giant cells surrounded by epitheliod cells and lymphocytes. The differential diagnosis lies between syphilis, leprosy and trachoma.

Fig. I—Anatomy of the Eye with Special Reference to Lymphatics.

I have recently had three cases of tubercular disease of the cornea; two were in patients with advanced pulmonary lesions, and the other in a Hindu with very incipient tuberculosis. The latter had been treated without avail with mercury and Potassium iodide. He presented definitely harsh breathing at his right apex, with a patch of consonating rales in his right axilla. Under careful hygiene and tuberculin his eye quickly cleared up, and remained so until he went back to farming, when he had a recrudescence which again cleared up under tuberculin. One of the other cases was that of a young woman at Arequipa Sanatorium whose eye rather suddenly became red, the superficial and deep vessels of the conjunctiva and sclera became injected and an infiltration of cells took place. Atropine was used locally, and at first she could not stand the increasing doses of tuberculin because of her extensive lung involvement although she was afebrile. But by repeating the same small dose of tuberculin for a few times she was able to develop more tolerance. Before long the inflammatory reaction had subsided leaving the haziness due to infiltration of lymphocytes and scar tissue. The third case was running considerable fever, and tuberculin could not be used. Her ulceration persisted for a longer time, but finally healed. She had had a similar keratitis when about 18 months old, associated with cervical adenitis, and the old scars in the cornea were visible.

Tuberculosis of the uveal tract is spoken of in the literature as one of the most common forms

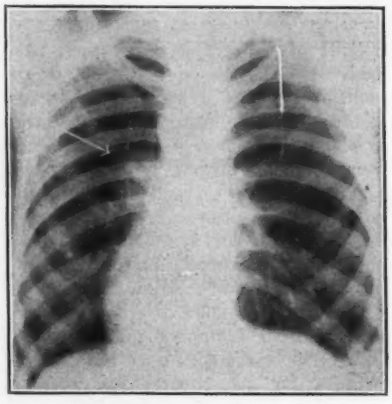

Fig. II—Bronchial Glands.

of tuberculosis. It may attack the iris, ciliary body and choroid, singly or en masse. Often when the iris is affected the others are involved by continuity, and the cornea and even lens may be involved by pressure. In 1890, Julius Von Michel maintained that inflammations of the iris due to tuberculosis were almost as common as those due to syphilis. This manifestation may be in the form of a solitary or miliary tubercle or it may be a diffuse process due to the toxins and not to the organisms themselves. The condition is practically always endogenous in origin although the individual is frequently in an apparently healthy and even robust condition. 85% of these cases appear before the age of 30, and a large solitary tubercle is more common in the child under ten. This is one of the most serious lesions of the eye, leading often to glaucoma, necessitating removal of the eye for the relief of pain, without influencing the course of the disease from the general constitutional standpoint. The disease in adolescence and adult life is relatively benign but does cause considerable diminution in the acuity of vision from a purely mechanical point of view. In the plastic non-purulent type it is difficult to distinguish from other types of iritis at the beginning, although the inflammatory reaction is less than in syphilis. The progress in

the types other than the solitary tubercle is chronic, tending toward spontaneous healing. Prognosis should be guarded because of the involvement of other tissues by contact, and the dimness of vision resulting. The chief differential diagnosis must be made from syphilis, which when a gumma generally leaves a browner pigment than tuberculosis; lipoma, sarcoma and sporothrix. Few individuals will permit of the excision of a piece for pathological examination and injection into a guinea pig or rabbit's eye. Some of the aqueous humor may be withdrawn and when injected often produces positive results. According to Terrien and Dantrelle, the aqueous humor in tuberculosis is very coagulable. Syphilitic choro-retinitis is more frequently found than is tubercular. The perivascular lymph space of His, it seems to me, plays a very important role as a means of entrance of the disease to the choroid. The diffuseness of the infection gives the appearance of a blood-borne disease, when it is in reality a lymphatic disease. Definite tubercles are found at times in the miliary type when they appear in the ophthalmoscope as fine grayish yellow, round nodules, about one mm. in diameter, with a clear center and a pink border, and may be differentiated from inflammatory nodules by the fact that the latter possess more pigment in their periphery. The hemorrhages that are present in the diffuse process during adolescence are very possibly due to the breaking down of the tubercular disease in the lymphatics, which are in very close proximity to the veins. These generally recover, leaving evidence of the choroidal atrophy. This condition, according to Stock and Axenfeld, is very frequently due to tuberculosis. The occurence of choroidal tubercles in tubercular meningitis has provoked considerable difference of opinion. Dupuy-Dutemps have never found tubercles in such cases. According to Jackson and others, it is not very uncommon to find these choroidal tubercles in the terminal stages of tubercular meningitis or a miliary tuberculosis, new tubercles appearing every day and of course never attaining any considerable size because of the death of the patient. The lymphatic connection of the choroid by way of the optic sheath and thence to the meninges makes it seem very probable to me that tubercles may be found at such a stage of tuberculous meningitis.

I wish to spend the rest of my time on what seems to me the most important part of this subject, and that is the methods at our disposal for diagnosing chronic, unexplainable eye lesions, and then a few words as to the advisability and usefulness of tuberculin as a therapeutic agent. It seems rather elementary to speak of the importance of a careful history; but this will often throw such light on a doubtful case that other possibilities are considered at once. Of special importance in a possible tuberculous case I would mention the following: (1) general health in childhood, whether always a weak child or strong and robust; (2) glands, these may have subsided with only a small scar remaining; (3) pleurisy; (4) ambition, whether able and anxious to do daily work; (5) the question as to loss of weight. Because of the small focus of possible tuberculosis we can not expect the more pronounced symptoms of extensive disease. Many times there are points like these that would not occur to the patient himself to mention, but which are of great importance when answered in the affirmative or negative. The general health of most patients with tuberculosis of the eye is remarkably good, and this may be misleading. But the insidious nature of the progress of tuberculosis, the fact that such a small focus is spreading toxins into the system, and the recognition that such a large percentage of us all have at some time been infected, makes it a diagnosis not to be dismissed by the appearance of the individual. A careful physical examination with special reference to general adenopathy, with scars resulting from old discharging wounds in glandular regions, old perforations in the ears which may elicit a story of a chronic discharging ear during childhood; a more rapid heart than can be accounted for by other signs; careful examination of the lungs for an old thickened pleura which may have developed without the frequent pleural pains that are common; suspicious signs of excessive scar tissue in the apex or elsewhere in the lung, and particularly a careful examination of the hilus (bronchial) glands. It is impossible to obtain as much information concerning this most important focus by ordinary physical signs as it is by x-ray pictures of the chest. The plates which I have shown illustrate different hilus shadows and those which I consider of particular importance as of diagnostic value. Whether or not the bronchial glands are the primary source of trouble in the lungs or secondary to some peripheral process, as Gohn claims, I will not discuss here, although I am still inclined toward the former view, they are a very frequent source of trouble and I can not emphasize too strongly a careful examination of them. As to laboratory tests: I believe that as we all use the Wassermann test almost as a routine we should use the subcutaneous tuberculin test in doubtful cases much more than it has been used. Now that I have mentioned tuberculin may I briefly review the different kinds and why one kind may have more value than another. The kinds most frequently used are: Koch's Original Tuberculin, Bacillary Emulsion, Bouillon Filtrate and Tuberculin R. OT is the filtrate of the killed bacilli and hence only the soluble exogenous toxins and none of those insoluble in the bacilli. This stimulates the body cells to form antibodies but has not the bacteriocidal properties that the endotoxins possess. This preparation is concentrated by heat. Denny's Bouillon Filtrate—BF—is similar, except that it has not been heated for concentration. The Bacillary Emulsion—BE—is a preparation of dead organisms and their soluble toxins and so contains exogenous and endogenous toxins. TR is a washed suspension of the dead bacilli and so contains the endogenous toxins. So it can be seen that the bacteriocidal properties are contained only in those with the dead organisms —BE and TR, while BF and OT act more as stimulators to body resisting powers. These are in reality largely theoretical matters and there are good men using almost exclusively one or another of these different preparations as well as many

others, including foreign perparations, and each believes he has better results with that particular kind than with others. OT is used almost exclusively for diagnostic purposes. A great many use TR. At Saranac and elsewhere, equal parts of BE and BF are used in treatment. I favor this last combination because it theoretically at least contains both properties. The question is often raised as to whether it is more efficacious to use Human or Bovine tuberculin. Romer's work on this subject, in which he injected tuberculin made from human, bovine and avian tubercle bacilli into animals infected with human, bovine and avian tuberculosis, and found no difference in the reactions, concluded that "human and bovine tuberculin are so identical in their action on infected animals that we may neglect the source." Koch's original idea as to what caused the febrile reaction to tuberculin was that the injected material had a specific action on the tubercular tissue causing it to slough, and it was the absorption of this necrotic material which caused the rise in temperature. This view is no longer held and now it is considered by Hamman, Wolman and others to be a specific protein anaphylactic reaction involving the protein substance of the bacillus injected or their soluble toxins, and the tubercular tissue. Immunity is produced by the stimulating effect of these endogenous and exogenous toxins on the body to produce more antibodies. We are doing this throughout life with the live organisms that have found their way into our systems, but it has not proven safe or wise to use live organisms in this immunization, for live organisms have been recovered three years after having been injected intravenously into animals. Immunity produced independently of tuberculin or in conjunction with it is only of a relatively amount and duration and an overwhelming infection may easily overcome the existing protection.

I wish to make a plea for the more frequent use of tuberculin in diagnosis and treatment of eye conditions, for it is as specific for tuberculosis as the Wassermann is for syphilis. First, in regard to its use in diagnosis; it may be used on the skin, in the skin or under the skin. The Von Pirquet test is of value, particularly in children and, when it is negative, in adults. Two negative reactions are fairly good proof that there is no active tuberculous disease, although this is by no means final. The most valuable test is the subcutaneous test, and this should not be employed until a thorough physical examination has been made to determine whether there is any latent activity in the lungs or glands. If there is any active disease the diagnostic doses may easily disseminate the process and so do considerable harm. If there is not this danger the doses should be very small at the start, gradually increasing from .1, .3, .7, 1., 1.5, to 2. mgr. A general reaction is not enough, for a great many without eye tuberculosis would react constitutionally to such a dose. But of particular value is the focal reaction in the eye, and to consider the test positive for the eye a change should take place there. After each injection the eye lesion should be examined just as routinely as the temperature chart. The reaction may take the form of tiny grey deposits or thickening of the iris in the inner circle, according to Professor Stock. Haab has seen ciliary and conjunctival injection in one case of disseminated choroiditis, and hemorrhage near the papilla in another patient from diagnostic doses. In another case where the vitreous had become liquefied and contained numerous dense flocculi and the borders of the disc had become very much reddened and there was a white area including the macula, the tuberculin reaction consisted in a hemorrhage in the course of some of the retinal vessels. By this test Axenfeld and Stock found that hemorrhages into the vitreous which commonly accompany retinitis proliferans, were often due to tuberculosis. One of these eyes came to autopsy and while no tubercles were found, the endothelium of the veins was characteristically changed by the tuberculous toxins. Thus a condition often ascribed to pus producing organisms has been shown to be of a tuberculous origin at times. It is much better to use small diagnostic doses in suspicious cases in order to determine the smallest dose which will give a reaction, rather than to do damage by a larger than necessary dose. Gamble has seen a typical reaction in tuberculous iritis with 1/50 mgr., and Stephenson produced a general and focal reaction in two cases of irido cyclitis by 1/1000 mgr. of TR. On the other hand, some cases of definite tuberculosis have not reacted until 6 mgr. were given, but this is far too large a dose to give in safety. A negative focal reaction with a positive general and local reaction is generally sufficient proof that the disease is not tubercular; but I think that there is a great deal of value in the statement of McCool, who says that in spite of a negative focal reaction with a positive general and local reaction where every other possible focus of infection such as teeth, tonsils, accessory sinuses, syphilis, etc., had been excluded, the eye condition should be considered tuberculous and treated as such. Tuberculin and hygiene will build up his resistance to that condition which caused his general reaction, and this will aid in any obscure eye condition.

Finally, in regard to treatment and prognosis: If we consider the eye lesion as probably tubercular we must not put all our faith in tuberculin, without carrying out hygienic measures. This means an inquiry into the habits and occupation of the patient, insisting that his work shall be clean and not fatiguing, that he shall have hours of rest and sleeping out of doors if possible, and that his diet shall consist in plain, simple, nutritious food. This is a very important part of the treatment. Tuberculin is given by one school headed by von Hippel, in doses large enough and frequently enough to produce a slight general and focal reaction. They consider this a necessity for the best immunizing results. This I think is more dangerous than keeping the doses just under the point of giving a reaction. We know that one of the dangers in a reaction is the softening of the tuberculous area and the spreading of the tuberculosis in the blood stream to other parts of the body. Bachmeister examined the blood of fifteen individuals at the

height of the febrile reaction after injection and found the blood positive in four cases. Animal experimentation by Rabinowitch-Kempner found the same to be true. The more conservative school is headed by Wright. He uses BE or TR, starting with 1/80000 or 1/10000 mgr., gradually increasing it at intervals of 10 to 12 days. Von Hippel uses larger doses of BE or TR, beginning with 1/500 mgr., increasing it 1/500 each dose every 2 to 5 days until 1 or 2 mgr. are given. Of course, with either method the patient should be considered individually and no set rule be followed. In using a mixture of BE and BF, I make dilutions up to 1/10,000,000 mgr., gradually increasing the doses till 1/1000 mgr. is reached. This is more applicable to general tuberculosis than to eye tuberculosis, where the dose may be carried further without the dangers of some of the casualties above mentioned. If proper care is taken, these excessive reactions are always avoided. Tuberculous iritis

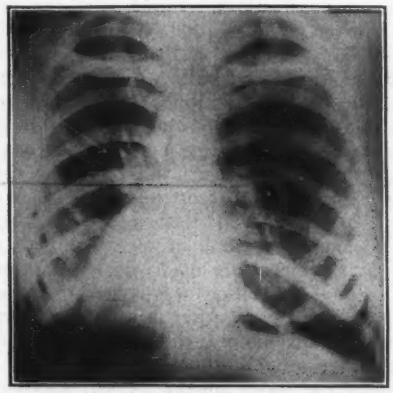

Fig. III—Bronchial Glands.

responds most favorably to this form of treatment and tuberculous conjunctivitis less readily. This may be due to the fact that the conjunctivitis is sometimes a primary source of infection, or it may be due to attenuated organisms. Scleritis, episcleritis and sclerokeratitis also respond favorably to tuberculin. Choroidal lesions respond fairly well, but not as well as do lesions in the anterior segment. One reason for failure sometimes is that it is not continued long enough. At times there is faulty preparation of the tuberculin; another thing it is important to note is that a new set of dilutions is made every 3 or 4 weeks because of its instability. When recurrences take place or relapses occur another kind of tuberculin may be tried with value.

The prognosis should be guarded because of the tendency to recurrence; but the patient can generally be assured that the lesion will not progress further. Many times the clearing up of edema and congestion will give actual improvement in vision. Where there are deformities produced nothing will remove them, and so the acuity of vision is almost always diminished.

In conclusion, let me emphasize the following facts:

(1) The spread of tuberculosis is generally by means of the lymphatics, while the blood stream transmits the toxins and sometimes the tubercle bacillus.

(2) In considering the diagnosis of tuberculosis, careful attention should be given to the lymphatic system and especially the cervical and bronchial glands as latent foci.

(3) The tuberculin test is of great importance and the reaction in the eye should be watched for after each injection, and the endeavor should be made to use the smallest dose that will produce a reaction.

(4) The treatment should be general as well as with tuberculin. This latter is a very powerful agent for good if used carefully and thoroughly.

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COMPLEMENT FIXATION IN TUBERCULOSIS.*

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To appreciate the factors entering into the Complement Fixation Reaction for Tuberculosis, it is necessary to keep two points in mind; first, the reaction of the human organism to the Tubercle Bacillus and its derivatives, and second, its reaction to the tissue products resulting from the action of the Tubercle Bacillus. It is known that the introduction of a foreign protein of whatever nature into the body calls forth a specific and a non-specific response. The specific reaction is that evidenced by the mobilization of an antibody, whose nature may be that of either an agglutinin, a precipitin, a bacteriotropin, an opsonin, a bacteriolysin or a complement fixing antibody. Then the non-specific antibodies may also be mobilized and these are chiefly of the ferment and anti-ferment variety. In order therefore to diagnose the presence of an organism that is sufficiently active to call forth a response from the infected body, it is necessary to seek for one or even all of these antibodies.

Complement deviation has been found to be the most delicate test for the detection of the presence of an antibody producing substance. Its

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delicacy is such that even minimal amounts of proteins can be recognized when brought in contact with their specific antibodies in the presence of complement. This accounts for the strenuous efforts Immunologists have made to apply this test to the diagnosis of tuberculosis since Bordet and Gengou first described their phenomenon.

A great deal of interest has been aroused recently in the subject owing to the fact that several investigators claim to have attained the goal for which they had been striving since the earliest reports of the work of Wassermann and Bruck. The chief difficulty has been to obtain a suitable antigen which would react with the antibodies produced as a result of an infection with the Tubercle Bacillus. This if obtained would solve the problem of early diagnosis of tubercular infections and also determine whether a definite cure was present.

In reviewing the work of various investigators we find that at first preparations of tuberculin were used. Then Widal and Lesourd carried out tests with a homogeneous emulsion of Tubercle Bacilli of the Arloing-Courmont type. Much prepared four partial antigens which were, a lactic acid extract, an alcoholic extract, an ether extract and the protein residue of the Tubercle Bacillus. Besredka in 1913 used as an antigen, a filtrate derived from a medium consisting of a mixture of bouillon, egg white and egg yolk, in which Tubercle Bacilli were grown. Calmette and Massoll in 1912 devised a water and peptone soluble antigen. Among other antigens employed are the alcoholic antigen of Dudgeon, Meek and Weir, and Hirschfelder's pepsin antigen as well as the tissue antigens prepared from normal and tubercular tissues. These constitute the basis for the antigens used by Caulfield, Laird, Fraser, McIntosh, Filde, Radclice and others who have obtained fair results although they have not been able to obviate an anticomplementary effect from these antigens. Products derived from autolysis of Tubercle Bacilli were used as antigen by Corper. Craig in using a modified Besredka antigen reports striking results, however the most encouraging results are those published by Miller who in conjunction with Zinnser, has employed an antigen prepared by triturating living or dead bacilli with dry crystals of ordinary table salt and then adding distilled water up to isotonicity.

It is not necessary to recapitulate all of the results obtained by the various investigators. It suffices that up to the present time the best results have been reported with the antigens of Calmette and Massol, which contain endo-bacillary substances extracted by water and peptone water, and with the tuberculin of Besredka which is a filtrate of an excellent culture medium for Tubercle Bacilli but which is not always specific, and then with the salt extracts of Miller and Zinnser as well as the alcoholic extracts of Craig.

Our first series of tests was carried out with various tuberculins but we soon found that they gave very inconstant results, so alcoholic, distilled water and ethereal extracts were used. These gave binding in some cases but the results were not conclusive. A saline extract of one strain of the human type of Tubercle Bacillus prepared after the method published by Miller and Zinnser, which is briefly, to triturate 20 MG. of dry Tubercle Bacilli with 90 MG. of dry salt and then add 10 cc. of distilled water, gave fair results, but was not constant in a sufficient number of cases. To increase the constancy of results, it was thought that an antigen prepared from as many strains as possible would be of greater value, so we collected from various sources twenty-four strains of the human type, twelve of the bovine type and one of the avian type, making in all thirty-seven strains.

The early tests which we commenced in December, 1916, were for the purpose of determining whether alcohol and ether extracts of Tubercle Bacilli would give as constant results as those obtained with the salt extracts. In a series carried out with the blood serum of patients who who had positive signs and were expectorating bacilli, strong fixations resulted with the salt extract antigen, but reacted negatively with the alcoholic and ether as well as with the acetone insoluble extracts of bacilli. Since then we have carried out all tests with the salt extract antigen which we prepared by scraping off the surface growths from Dorset's egg medium, Lubenau's egg medium or glycerine agar, and collecting them in a sterile thick glass centrifuge tube. A small amount of saline was then added to the tube and its contents placed in a water bath maintained at a temperature of 70 degrees C. for two hours. This precaution was taken to avoid the danger of infection. After heating, an excess of chemically pure sodium chloride was added and the resulting mixture thoroughly triturated for a half hour, the small amount of salt solution previously added, materially aiding in this process. Following this, distilled water was added to the 15.0 cc. mark on the centrifuge tube and the mixture centrifuged for a half hour at a moderate rate of speed. The large amount of sodium chloride added renders the solution present a saturated salt solution and the supernatant fluid can be decanted off and diluted up to isotonicity.

This antigen was found to give as good results as that used by Miller and Zinnser and the tests tabulated below have been carried out with it. It will often not inhibit hemolysis in doses up to 2 cc. For the tests carried out by us from 0.1 to 0.4 cc. were employed.

The number of sera examined total 601. They comprise blood sera obtained from known tubercular patients under treatment, sera received at the laboratory for routine Wassermann tests, sera from tubercular suspects, sera obtained from blood taken from apparently healthy individuals and those suffering from a variety of different diseases.

The first series consists of a total of 126 cases of confirmed pulmonary tuberculosis, the blood sera being derived from patients in sanatoria or hospitals for tuberculosis. A large number of these cases had Tubercle Bacilli in their sputum. Of these 126 cases, 89 gave definitely positive reactions, 26 negative and 11 doubtful reactions.

TABLE I.

	Total	Positive	Negative	Doubtful
Confirmed Pulmonary Tuberculosis..	126	89	26	11
Suspected Pulmonary Tuberculosis..	61	55	3	3
Suspected Tuberculosis other than Pulmonary	41			
(a) Suspected Glandular Tuberculosis	11	4	5	2
(b) Suspected Tuberculosis of the kidney	8	4	2	2
(c) Suspected Tubercular Epidymitis	5	2	3	
(d) Suspected Eye Cases	17	7	8	2
(e) Suspected Ear Cases	1	1		
(f) Suspected Intestinal Tuberculosis	1	0	1	

TABLE II.

	Total	Positive	Negative	Doubtful
Ozena Cases	19	9	10	
Ascites Cases	3	3		
Bronchial Asthma	2	2		
Chlorosis	4	2	2	
Pernicious Anemia	2	2		
Coccidiodies	2	0	2	

TABLE III.

	Total	Positive	Negative	Doubtful
Ostensible Normal Cases	51	12	38	
Spinal Fluids	13	0	13	
Positive Wassermanns	60	17	43	
Negative Wassermanns	57	57	0	
Cases giving positive Von Pirquet reactions	13	10	3	
Cases giving negative Von Pirquet reactions	7	0	7	

Of the confirmed cases which reacted negatively we were able to follow up 13 of these, 9 of which died within one month after the tests had been carried out. (Table I.)

The second series consists of 61 cases of suspected pulmonary tuberculosis, of whom 40 were later confirmed. We found that 34 of these gave positive fixations, 3 negative and 3 doubtful. Of the 3 negatives one had been exposed to tuberculosis, the second had an advanced pulmonary lesion with cavities, and the third had an apical lesion with positive sputum. (Table I.)

Series three consists of cases of suspected tuberculosis, other than pulmonary. Forty-one of these are tabulated with results in table I.

The fourth series was carried out with the blood sera taken from 32 patients suffering from diseases other than tuberculosis. All of the Ozena cases had been treated previously with vaccines prepared from polyvalent strains of the Perez Bacillus and it is of interest that a large percentage of those who gave a positive tubercular fixation showed very little improvement under vaccine therapy. The three cases of Ascites which reacted positively proved to be Cirrhosis of the Liver, Tubercular Peritonitis and Chronic Peritonitis with marked emaciation.

Two patients with symptoms of Bronchial Asthma gave strongly positive reactions. Two cases of chlorosis and two of pernicious anemia gave strongly positive fixations, while two cases of coccidiodes and one of measles reacted negatively. (See Table II.)

The last series carried out consisted of ostensibly normal sera, spinal fluids, and sera from positive and negative Wassermann cases. (Table III.)

We regret that owing to our inability to obtain Trypsin of a reliable make, we were unable to carry out antitryptic determinations. In a discussion of immunity in tuberculosis and the relationship that complement fixing bodies bear to this, a comparison of the antitryptic index with the strength of complement fixation should surely be of some value. Jobling's work has clearly demonstrated the relationship between antitryptic effect of the unsaturated fatty acids of the Tubercle Bacillus and the failure of the body to prevent caseation or to digest this material. It has also been observed by other investigators that the pancreatic ferments normally present in the feces are diminished in cases of active tuberculosis.

In addition, we have also observed that the leucocytes are increased in cases where the complement fixing bodies are strongly in evidence. Here too the increase in lipase ferments inherent in the lymphocytes and the protease ferments inherent in the leucocytes surely play a not important role in the immune processes of the body towards this disease. The fact that tuberculin stimulates the production of leucocytes and the favorable effects reported by Manwaring, Opie and others in the treatment of tuberculous meningitis and other tuberculous lesions help to confirm the supposition.

In conclusion, it is evident from the above findings that the complement fixation test is of great value in the differential diagnosis of tuberculous disease processes from simulating affections, and is as such a valuable adjunct to clinical methods of diagnosis. It has its limitations, however, which only increased familiarity with the test will definitely define, and in the case of the Wassermann reaction will depend to a great extent on the anatomic location of the disease process, although here we are dealing with a definitely specific test. Its value as to prognosis is suggested by the above findings, although in no way conclusively proved, and when repeatedly negative in advanced or rapidly progressive cases would indicate a complete absence of immune bodies suggesting a rapidly fatal outcome.

Regarding its value as to the activity of a process we have not been able to confirm the findings of Miller and Zinnser, nor those of Craig, unless

we are to consider every case giving a positive reaction, a potential active case of tuberculosis, when we must assume that the harboring of a live Tubercle Bacillus anywhere in the body means a condition of potential activity, an attitude that we have consistently assumed with regard to the Spirocheta Pallida. In that event our classification of the disease must be based on the presence of a live bacillus in the tissue of the body, and individuals be considered either uninfected or disinfected (both bacteriologically equivalent), progressive or latent. While this would impose an enormous task in the combat against tuberculosis, it would undoubtedly help more to stamp out this plague than our hitherto accepted classification with its false sense of security.

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THE DIFFERENTIATION OF SYPHILITIC AND TUBERCULOUS PULMONARY LESIONS.*

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(From the Barlow Sanatorium.)

As congenital pulmonary lues or so-called "White Pneumonia" is usually fatal in infancy or during foetal life, we may confine our discussion to the acquired forms of pulmonary lues. This condition is regarded as rare by most authors. Thus Fowler [1] was able to find only ten authenticated specimens in the London pathological museums. Only twelve were reported out of 2500 autopsies at the Johns Hopkins Hospital (Osler [2]), while not one was found among 13,000 specimens inthe Army Medical Museum as noted by Clayton.[3]

The number of clinical cases reported in medical literature is relatively greater, but as a positive diagnosis during life is by no means easy, even with the aid of modern diagnostic methods, it is possible that in some of the cases reported as lues of the lungs the diagnosis may have been incorrect. On the other hand it is equally possible that many actual cases of pulmonary lues may have been overlooked or mistaken for tuberculosis.

The diagnosis is rendered difficult by the fact that we may have any of the following conditions present: Tuberculosis of the lungs coexisting with either luetic infection or luetic lesions elsewhere in the body; syphilis of the lungs without tuberculosis present; or finally pulmonary lesions caused by both lues and tuberculosis. In other words, granted that in a given case we have evidence of luetic infection as shown by a definite history of syphilitic infection or by the presence of luetic lesions elsewhere in the body, it still remains necessary to determine whether existing changes in the lungs are due to lues, to tuberculosis, or to both lues and tuberculosis. It is only rarely that we are able to fulfill the postulates laid down by Fowler,[4] namely: (a) A complete history and necropsy finding; (b) Evidence of luetic infection; (c) Repeated negative sputum examinations; (d) Presence of luetic lesions elsewhere in the body.

It is hardly necessary to refer here to the principal differential features laid down in standard text books, namely: the gradual onset and slow course in lues as contrasted with tuberculosis, also the fact that in lues the lesions are usually located at the roots of the lungs or at the base; that stenosis of bronchi and trachea and the formation of bronchiectases are more common in lues, while in tuberculosis there is greater tendency for necrosis and cavity formation. The clinical symptoms may be very misleading.

If we are to accept the diagnosis of a number of authors we may find in pulmonary lues a train of symptoms identical with those occurring in pulmonary tuberculosis, namely: cough and expectoration, fever, night sweats, hemoptysis and gastric disturbances. Nor are luetic lesions always limited to the hilus region or to the base of the lungs. Thus in all five of the cases reported by Landis and Lewis,[5] the diagnosis of tuberculosis had been made and the patients had for a time been treated at tuberculosis sanatoria or health resorts. The same was true in Burnham's case [6] and in both of Brown's cases.[7]

For the reason that modern diagnostic methods had not been perfected at that time, the earlier cases reported in literature, those of Collier, 1882, Hiller, 1884, and Conner, referred to by Roussel,[8] have been left out of consideration. As a basis for this inquiry, however, 31 case histories, reported and published during the last four years, have been studied carefully and the results tabulated. These are the cases reported by the following authors: One each by Culver,[9] Clayton,[10] Roussel,[11] Hays,[12] Hoffman,[13] Lindvall,[14] Blinder,[15] Eastman,[16] Burnham,[17] Gullbring,[18] two each by Brown,[19] and Bauch,[20] five by Landis and Lewis,[21] and seven by Wood.[22]

The 31 cases include also three from our material at the Barlow Sanatorium, not reported or

* Read before the California State Medical Society at Coronado, April 17, 1917.

published previously. The histories of these three cases were as follows:

No. 673.—A woman married, aged 39, gave a history of tuberculosis in both parents. She had typhoid fever ten years ago, pneumonia eight years ago, pelvic cellulitis and pertonitis ten years ago. There was no history of luetic infection in patient or her husband. She had had some pleurisy on the right side and for eight months before admission suffered from severe colds, with sore throat, irritating cough and some expectoration. There was slight dyspnea, occasional hoarseness, slight fever, night sweats, poor appetite and gastric distress. She had lost sixteen pounds in weight. The tonsils had been removed six months before admission. Ulceration of the throat developed a week or so later. As a child, had enlarged glands of the neck, which had been dissected.

Examination of the chest showed dullness, with bronchovesicular breathing, increased voice and a few fine moist rales over both upper lobes. There was also some dullness with fine rales in the right axilla.

Examination of the throat was made by Doctor Hill Hastings one week before admission, who reported as follows: "Pharyngeal wall shows macerated superficial ulceration, especially marked on lateral walls and extending up into the nasopharynx. The surface is pale red, with infiltration of the mucosa. Tonsillar fossa shows healthy healed scars. There is slight ulceration around the Eustachian tubes, also a shallow ulcer on roof of pharynx. The larynx is negative."

Examination of other organs, including blood and urine was negative. Repeated examination of sputum and the secretion from ulcers was negative for tubercle bacilli. Wassermann test made one week after admission, four plus.

On specific treatment and local antisepsis, the pharyngeal ulcer began to heal. Mixed treatment was instituted one month after admission and was followed by complete healing of the ulcer and marked improvement in general condition. The patient gained eleven pounds and has maintained good health for two years since discharge.

Case 710.—A woman, age 36 years, widowed, gave a family history of tuberculosis. There was one still birth, one miscarriage and she had one living child ten years old who was delicate and had snuffles. At birth the child had an eruption and developed ulcers on the legs.

For three years the patient had been getting more and more tired and languid and had lost thirteen pounds in weight. She had had some cough for six months with scanty expectoration. There had been no hemoptysis. She complained of considerable dyspnea, hoarseness and pain in side and back of chest. Had had some night sweats. The appetite was good and digestion unimpaired. Two years ago had an obstruction of the nose due to some growth. An operation for this condition (Gumma?) was followed by loss of septum. No history of any ulceration on mucous membrane of mouth or throat.

Examination of chest. There was dullness with broncho-vesicular breathing, increased vocal resonance and fine moist rales over both upper lobes as far as the third rib and the spine of the scapula. Above the clavicle on the left side there was a small area of bronchial breathing and voice.

Examination of nose showed absence of septum. The mucous membrane was congested and bled easily. Examination of larynx negative.

Examination of other organs, including blood and urine was negative. Repeated sputum examinations were negative for tubercle bacilli. Wassermann examination made two months after admission was four plus.

The temperature up to this time had been typical of tuberculosis, daily subnormal remission and evening elevation to 100. The pulse range was 80-106.

The patient subsequently developed headache, dizziness, pain in back of neck, nausea and vomiting. Some stiffness of neck muscles, exaggerated knee jerks and some inequality of pupil. Kernig and Babinski phenomenon absent.

She was transferred to the County Hospital and unfortunately lost to further observation.

Case 755.—A man, 36 years old, married, gave a history of tuberculosis in the family and had been associated with an individual suffering with tuberculosis for four years. He gave a history of luetic infection in India ten years ago. For three years has been "run down" and suffered from intermittent cough, hoarseness, little or no sputum, some pain in chest, with loss of appetite, gastric disturbances, insomnia and headaches. Had an attack of iritis one year ago and orchitis three years ago.

Examination of chest: Dullness on both sides, more marked on left with roughened bronchovesicular breathing and increased vocal resonance, but no rales. Signs were heard as far as the third rib in front and the spine of scapula behind. There were no signs at the base.

Examination of nose showed perforation of septum. Examination of other organs, including blood and urine, was negative. Repeated sputum examinations were negative for tubercle bacilli. Wassermann four plus.

Patient was discharged before treatment was begun and unfortunately lost to further observation.

The two following case histories are introduced for the purpose of illustrating the clinical features in the presence of both lues and pulmonary tuberculosis, cases in which a positive sputum examination furnished a basis for differential diagnosis:

Case 862.—A man thirty years of age, railroad employee, gave a negative family history. No other illness, but admitted a Neisser infection eight years ago. Denied Lues. He had a cough and expectoration for six months, but no hemoptysis. There was some dyspnea, a little hoarseness, no pleurisy, no chills and no fever. There had been no night sweats. The appetite was good, the digestion unimpaired. There was some impairment of strength. He had lost ten pounds in weight. The general appearance was pale and spare.

Examination of chest showed dullness, bronchovesicular breathing and increased vocal resonance over both upper lobes as far as the second ribs in front and the spine of the scapula behind. A few fine moist rales were heard on both sides and some pleuritic friction rales at the left base.

Examination of nose and throat showed congestion of pharynx extending to soft palate and uvula. Examination of larynx unsatisfactory. Teeth in poor condition. Pyorrhea present.

Temperature during residence occasionally 99, or 99.2, pulse range 65-90. Sputum examination showed typical tubercle bacilli present on direct examination. Other organs, including blood and urine, negative.

About one month after admission developed an ulcer of the tongue. Wassermann examination was four plus.

Patient was discharged before treatment, but it was reported subsequently that the ulcer on the tongue had healed promptly under specific treatment.

Case 831.—Man, mechanician by occupation, 21 years old, single, gave a history of tuberculosis in brothers and sisters and had been exposed to infection at home. Habits good. Denied venereal infection.

For about one year had had cough with some expectoration. The sputum was not examined before admission. Had had several hemoptyses. There was dyspnea on exertion and some pain in the chest. He did not complain of hoarseness, and had had no chills, though there was some fever

SUMMARY OF FINDINGS IN CASES REPORTED.

Author	No. of Cases	Lues Infect. History	Luetic Lesions Other Organs	Location of Pulmonary Lesions	Wassermann Test	T. B. Sputum	Remarks
Culver	1	+	+	Apices	+	0	Resolved
Clayton	1	+	+	Scattered	+	0	Necropsy
Roussel	1	+	+	Scattered	+	0	Resolved
Hays	1	0	0	Base	+	0	Untreated
Hoffman	1	+	+	Apices	+	0	Resolved
Lindvall	1	(?)	—	Hilus	+	0	Resolved
Blinder	1	+	+	Apex and Hilus	+	0	Resolved
Bauch	2	+	0	Hilus	+	0	Compl. Fix. Tbc.
Easton	1	+	0	Base	+	0	
Burnham	1	+	+	Apex and Base	+	0	Resolved
Wood	7	+	0	Apex and Base	+	0	Resolved
Landis and Lewis	5	+	0	Apices	+	0	Resolved
Gulbring	1	+	+		+	0	Necropsy
Downing	2	—	—	Apices	—	0	Resolved
Brown	2	+ (1)	+ (1)	Scattered	+ (1:?)	0	(1) Resolved Necropsy. (1) Aneurism Aorta
Klots	3	+ (1)	+ (2)	Apices (2), Base (1)	+	0	
Total	31	+ (24)	+ (10)	Apices (22)	+ (30)	0 (31)	

and night sweats at the time of the hemoptyses. His appetite was good, the digestion unimpaired, but he had lost some strength and about eighteen pounds in weight.

Examination of chest: There was dullness with bronchovesicular breathing and increased vocal resonance over both upper lobes as far as the second ribs in front and the fourth dorsal vertebra behind. Fine moist rales heard over right side as far as base in front and the angle of the scapula behind. On the left side a few crackling pleuritic rales in the axilla.

Sputum examination showed typical tubercle bacilli on direct examination. Examination of other organs, including blood and urine, was negative. The temperature on admission was normal and the pulse range 85-110.

About two weeks after admission developed genital ulcers. These were at first mistaken for herpetic vesicles. But subsequently they coalesced and developed into a dirty, punched out ulcer, with some induration. The glands in the left inguinal region became enlarged, slightly tender and matted together.

Microscopic examination of preparation from ulcer made by Dr. Walter Brem was positive for Spirocheta Pallida.

Wassermann test suspicious.

Patient referred elsewhere for treatment and lost to observation.

The accompanying tabulation gives a summary of the different cases reported. Thus we find that only three fulfilled Fowler's postulates. There was, however, a definite history of luetic infection in all but seven, and in one the history of infection was doubtful. The apices or upper lobes alone were involved in eleven, while in thirteen the lesions were located not only at the tops of the lungs but also at the base or hilus region. In only six were the lesions limited to the base or hilus. This distribution of lesions would therefore be contrary to the generally accepted statements in text books.

The Wassermann test was positive in all of the thirty cases in which it was employed. In one case no statement is made in regard to the Wassermann.

Sputum examinations were negative for tubercle bacilli in every one of the cases. Four observers had employed the antiformin method in addition to the direct method. Three had made animal inoculations with sputum, and one observer reports twenty-four successive examinations. One used the complement fixation test. All the above tests were negative for tuberculosis. Three observers reported the results of X-ray examinations.

In twenty-two cases the clinical symptoms and local symptoms cleared up under some form of specific treatment. Three died, while three were not observed after treatment or were not treated. In one case there was no change in condition, and in one other no statement was made as to treatment.

The important clinical features derived from the study of these cases is the fact that every one of them showed symptoms characteristic of pulmonary tuberculosis; the symptom complex present including cough, expectoration, hemoptysis, emaciation, fever, night sweats and gastric disturbances. In all a diagnosis of tuberculosis had been made originally, to be modified or altered later. A number of the patients had been admitted and had been under observation or treatment at tuberculosis institutions or resorts before a diagnosis of lues had been made. The physical signs in the chest as described were almost identical with those of pulmonary tuberculosis. In addition to changes of resonance and breath sounds, such as dullness, impaired resonance, bronchovesicular breathing or bronchial breathing, moist rales or other adventitious sounds were reported in most instances. When it is recalled how difficult it may be for the pathologist to distinguish luetic and tuberculous lesions by anatomical or even histological examination; it can be readily understood that their differentiation during life by clinical methods may be puzzling or difficult. It is necessary to be somewhat guarded, therefore, in accepting a diagnosis in the absence of definite bacteriologic or biologic proof. Nor can we accept as competent evidence necessarily the results of negative sputum examinations. The inconclusiveness of sptum examinations has been pointed out by Cunningham,[23] and has been repeatedly emphasized. The medical reports of numerous tuberculosis sanatoriums show that on an average in only about 50 per cent. of the cases are tubercle bacilli found in the sputum at any time.

Ten of the cases showed luetic lesions elsewhere in the body, but this occurrence is not necessarily a proof that existing lesions in the lung were also luetic. Tuberculosis and lues may be and very frequently are associated. We know that a pre-

vious or recent luetic infection may either predispose to tuberculosis or cause a latent tuberculous process to light up or become active. For that reason it cannot be accepted as a definite proof that in fifteen cases the symptoms and physical signs in the lungs cleared up promptly under specific antiluetic treatment. It may be properly urged that the effect of such treatment in improving the general condition and resistance of the body may indirectly exert a favorable influence upon the tuberculous process.

It is quite usual to find in cases of chronic pulmonary tuberculosis alternating periods of quiescence and activity, such exacerbations being brought about by intercurrent infections or unfavorable circumstances. The possible association of lues and tuberculosis must therefore be kept in mind constantly, bearing as it does on the question of treatment. It is generally accepted that by treating the luetic condition we may accelerate improvement or arrest of a tuberculous infection. Antiluetic treatment would be indicated therefore even if the pulmonary lesions were tuberculous and not luetic. In this connection, however, some warning notes have been sounded as to the danger of causing focal reactions in the lungs by the administration of salvarsan and neosalvarsan. Attention has been called to this question recently by Potter,[24] who recommends their use, however, in latent incipient or chronic fibroid pulmonary tuberculosis.

Recapitulating our present knowledge as to the differentiation of pulmonary lues and tuberculosis, it would appear that a diagnosis must be made cautiously and not until all diagnostic methods at our disposal have been exhausted. The following procedures would suggest themselves: Repeated sputum examinations both by the direct and antiformin methods; cultures with Petroff's medium or some similar method of direct planting; animal inoculation and routine Wassermann tests in all cases with negative sputum examination, where definite lung signs are present. A reliable method of complement fixation for tuberculosis would be of considerable value in this connection, as obviously none of the tuberculin tests possess any practical clinical value. X-ray examinations and fluoroscopy may also throw much valuable light as to conditions present in the chest. Wood[25] recommends that in addition to X-ray examinations of the chest, radiographs be made of the long bones, in cases where lues is suspected. Needless to say a painstaking history and careful general physical examination should always precede the above special examinations.

SUMMARY.

Summing up the results of this clinical study we find that in thirty-one cases reported as pulmonary lues there were present symptoms and physical signs generally accepted as characteristic of pulmonary tuberculosis, and that in the majority of these cases a diagnosis of pulmonary tuberculosis had been made and that many of the patients had been treated as such. A subsequent diagnosis of pulmonary lues had been made only after the usual and accepted methods of diagnosis had been employed and additional facts obtained by careful histories and more thorough examinations. The experience and reputation of many of the authors reporting these cases would in itself assure us of the correctness of the diagnosis as reported. At the same time certain sources of error have been pointed out and conceded, while possible objections have been anticipated.

At a time when many are beginning to recognize certain limitations and sources of error in the diagnosis of pulmonary tuberculosis, it may be well to recall other conditions that may bring about pulmonary changes. We certainly may err in making a diagnosis of tuberculosis on insufficient grounds and in so doing subject our patient to considerable loss, annoyance and worry. The clinical, social and economic significance of such errors is too obvious to require further discussion.

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METABOLISM AND DISEASE.*

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The charge has been made in the past that medicine has not kept pace with surgery. This charge, unfortunately, cannot be denied, and the reason, we are forced to admit, has been in part at least, due to the slow growth in physiology. At the present time, however, the pendulum is swinging the other way. Not only are physiologists producing satisfactory solutions to many heretofore unsolved problems, but clinicians are more interested in acquainting themselves with these results, and there are more means of bridging the way from the clinic to the research laboratory, which, in many places, is now considered a necessary adjunct to the hospital. The illuminating work being done at the present time, on organ functions, ductless glands, blood chemistry, serum ferments, metabolism and nutrition, all point unmistakably to the fact that physiology is coming into its own. The body is recognized not only as an anatomical structure, but more as a living structure, with various closely related interdependent normals, the physiological actions of which are bio-chemical, and the life of the organism depends upon the ever-changing activity of its cells which are never in a state of equilibrium. The supply which the blood is constantly

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bringing for the upbuilding of the cells is derived from the food, but what constitutes a food, is becoming a more important question with the development of our knowledge of metabolism and nutrition. As the body cells are largely protein, adequate calories should include a certain amount of proteins as well as carbohydrates and fats, together with a recognition of the unlike values of protein. There must be also, a recognition of the need of food hormones (vitamins), which play an important role in nutrition, entirely independent of any energy which they may yield. It is impossible as yet to isolate vitamins directly from all foods, but Voegtlin [7] has found that they run parallel in grains with phosphorus, and that grains containing less than 0.4% of phosphorus are deficient in vitamins. McCallom, Simons and Pitz [2] find two dietary essentials for growth which they call fat soluble "A" found in butter and cream, and water soluble "B" found in a variety of foods.

The body requirements vary according to age and bodily activity and the intensity of the life processes. The work done may be internal, as digestion, respiration, circulation and muscular-tension, or external, as any body activity.

Since the efficiency of the human machine depends upon its power (energy production) and repair, and this in turn upon the quantity and quality of the food taken, it is obviously important that the question of foods and body metabolism should receive more attention. The energy value of foods has been accurately determined by burning in a calorimeter under such conditions that all the heat evolved is taken up by water surrounding the calorimeter and the temperature of the water measured by a delicate thermometer. Combustion of foods in the human body may be also measured, by the heat eliminated from an individual together with the respiratory quotient. If food is taken, 10% of the basal heat production is added, and beyond this the total body requirement depends upon the amount of bodily exercise. As the body metabolism may be accurately measured in a human calorimeter (direct calorimetry), and the amount of energy liberated in the process of oxidation of a given amount of foodstuff may be computed with accuracy (indirect calorimetry) and since [7] these two computations have been found to agree within a few figures, therefore, knowing the chemical composition of foods, the body requirements may be accurately and easily estimated. The energy liberated from the oxidation of foods in the body constitutes the basis of life, and the heat eliminated is the measure of the sum-total of its activities and life processes. In the growing child the life processes are more intense and the activity greater than in the adult or the aged and he requires more building material, and more energy producing foods.

Haldane [4] says that the body organism as shown by its structure, activity and life history tends unmistakably to maintain a normal, and he has shown that the physiology of breathing is one of the regulatory interdependent normals which has a direct bearing upon body metabolism. In the process of metabolism oxygen is consumed and CO_2 is given off, and the breathing is regulated to correspond with this consumption and production. The CO_2 which normally preserves a tension of 5% to 6% in the blood and alveolar air reaches the respiration center stimulating it to action. The impulses pass along the vagus nerves which exercise a regulatory influence on the discharge from the respiratory center preventing undue or useless prolongation of the inspiratory effort. During heavy muscular exercise, or after temporary embarrassment to respiration, the breathing is increased but the depth adjusts itself to keep the normal percentage steady. In his experimental work, Haldane has shown that the tension of CO_2 depends (1) upon the H ion concentration; (2) the reaction of the respiratory center to this concentration, and (3) to the capacity of the blood for carrying CO_2. This capacity of the blood for carrying CO_2 Marriot [10] has shown depends upon the alkali reserve. The blood is the seat of the acid-base regulatory action and maintains an efficient alkali reserve which keeps the plasma at a constant, slightly alkaline reaction. Acid products of metabolism, chief of which is CO_2, are constantly being poured into the blood. The slightest change toward acidity stimulates the respiratory center, which reacts by increased breathing and the consequent removal of the excess of acid. Even with an excess of CO_2 in the tissues the respiratory mechanism responds, oxidation is increased, and the removal is accomplished without depletion of the alkali reserve. There are, however, other acid products of metabolism such as sulphuric, phosphoric and oxybutyric acids which are non-volatile. As they are poured into the blood they neutralize a corresponding amount of the alkali-reserve and the reaction shifts toward acidity. The respiratory mechanism makes an effort to compensate, which results in an over stimulation, and a diminished CO_2 tension in both blood and alveolar air. This lowered tension, or a lowered alkalinity of the plasma indicates a corresponding increase of non-volatile acids in the blood, either of which may be considered an index to the H ion concentration. Underlying the condition known as acidosis is first, a diminution in the alkali reserve. This may be due to an impoverishment of the body in bases, caused either by a diet poor in substances which give rise to bases, a faulty absorption, or an increased loss of bases, or by abnormal amounts of acid produced in metabolism during an excessive intake of proteins. Peabody [18] and his associates proved conclusively that a severe acidosis could be produced by a strictly protein diet.

Although the digestive system is of paramount importance in normal metabolism it is probably the most neglected. The quantity and quality of the food is often ignored or left to a capricious or gluttonous appetite.

Gastric motility depends largely upon the nature of the food ingested. Normally, carbohydrates produce a gastric juice rich in digestive power, and pass through the stomach rapidly. Proteins produce a rich juice but move less rapidly, while a diet very rich in fat hinders the passage of food because of a very much lessened gastric juice. In order to produce conditions favorable for the

normal opening of the pylorus, the gastric contents should be acid and the duodenal contents should be alkaline. If the pancreatic juice is not activated, protein digestion suffers and partially split products of protein metabolism are absorbed directly into the blood stream from the intestinal tract. If bile is not present in sufficient amounts the utilization of fats is hindered or reduced. Thus the external secretion of the pancreas is the direct result of the internal secretion of the duodenal mucous membrane. Therefore with a lack of pancreatic secretion, with all the attendant sequellæ, we must look for the source of the trouble in the gastric juice, the duodenal membrane or in the quality of the food taken. Under normal conditions it is obviously due to the quality of the foods. Kramer [7] suggests that the internal and external functions of the pancreas may be closely akin, in that the external provides for the complete neutralization of the acid contents from the stomach, thereby protecting the liver in its glycogenic functions, while the internal preserves the proper H ion concentration in the tissues. Murlin and Sweet [8] think it possible that the pancreatic hormone may prove to be a peculiarly adapted alkali produced by the Islands of Langerhans. A differentiation of the cells in the pancreas for the production of an alkali is, they think, no more improbable than such a differentiation for the production of acid in the stomach. The primary defect in diabetes is an inability to oxidize glucose, as proved by the low respiratory quotient and the elimination of sugar in the urine when ingested. But beyond all this there is a profound disturbance of metabolism. Not only is sugar excreted in the urine, but the threshold of sugar in the blood is raised, and the acid-base balance is disturbed. The ability of the alkalis to facilitate a primary cleavage of glucose in the blood seems conclusively established, and the relation of alkalosis to hypo-glycemia emphasizes the significance of the acid-base equilibrium in the regulation of blood-sugar content. On fasting and low diet diabetics show gradually increasing power to oxidize carbohydrates, first from their own body proteins and later from a carefully regulater diet—even when the dextrose-nitrogen ratio indicates a total diabetes. The possibility of rapid changes in this ratio is considered by Allen and DuBois [9] to be one of the strongest evidences in favor of the functional element of diabetes, and the fact that the functional power recovers, in most cases, with proper dietary measures, points to a faulty metabolism as the probable primary cause.

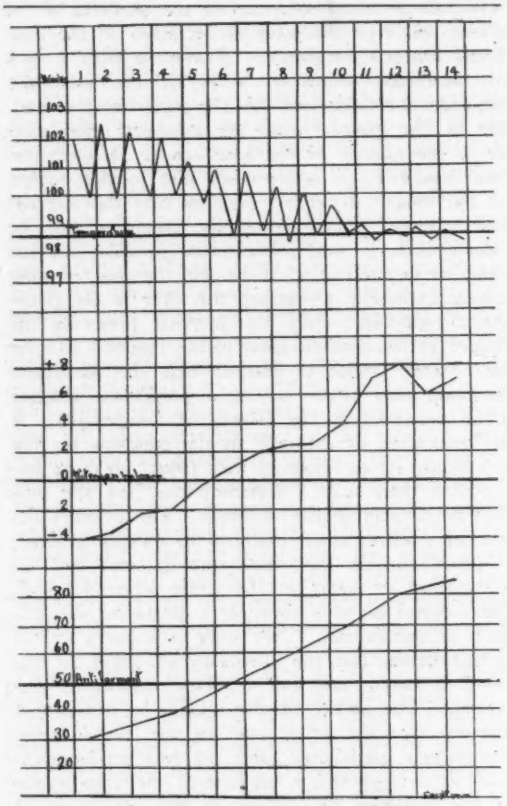
In normal metabolism proteins are completely dismembered within the intestinal tract and oxidized down to amino-acids which are non-poisonous. If the diet contains more nitrogenous material than is needed by the organism, a part of the amino-acids are changed within the intestinal canal to form ammonia. The remaining soluble products of oxidation are absorbed into the blood-stream from whence they are utilized by the tissue cells, and the waste excreted by the kidneys. If, however, the splitting of protein is imperfectly carried on in the intestinal tract, these imperfect poisonous products are also absorbed into the blood-stream and may cause serious symptoms, from dizziness, nausea and vomiting, to convulsions or even death. Nature, however, always tries to compensate, and when harmful metabolic products are poured into the blood-stream, the regulatory action of the kidneys and respiratory system come into quick action and promptly excrete them, thus showing their ability to maintain the blood at a normal balance. If, however, the excretory stress becomes too great, or too long continued, the excessive excretion of these poisonous products overworks and irritates the kidney and may produce any stage of lowered kidney function. Vaughn [10] believes that most cases of nephritis are due to toxic products of metabolism from imperfect splitting of proteins, absorbed as such, from the intestinal tract. The continued ingestion of proteins under such conditions puts still greater stress upon the kidneys until the function finally breaks. In the acute stages of lowered kidney function, proper regulation of food intake, relieving the kidneys of excretion of all nitrogenous wastes, often results in perfect restoration of function.

It is obviously necessary to know the chemistry of foods and their nutritive value; to estimate correctly the body requirements, and to regulate the intake of foods according to the output of wastes in order to keep the body in nitrogen equilibrium, but it is also necessary to know the exact chemistry of the blood which is a measure of the intermediate metabolism. The tendency of the blood normally is to preserve a balance not only in CO_2 tension but in other constituents as well: total proteids, comprising serum proteids and globulins; total non-proteid nitrogen, comprising uric acid, urea, ammonia, creatin and creatinine, in certain definite proportions. The role of the mineral elements should also be understood in order to grasp the idea of their utility in the body as well as their possibilities for harm. Normally the blood preserves a balance in these elements, the presence of which are needed to preserve the neutrality of the blood, the proper reaction of the digestive juices, and the elasticity and irritability of nerves and muscles. They form certain combinations which protect the body against harmful substances and contribute to one side or the other of the acid-base balance which Henderson [11] has shown is maintained by a chemical and excretory self-adjustment. Physiologically, calcium and magnesium are balanced opposites. An excess of magnesium in the blood causes a counter active elimination of calcium; an excess of calcium salts in the blood increases the globulins, thus rendering the blood more coagulable. This increases the viscosity and renders it more difficult of passage through the capillaries, thus raising arterial tension. To Alice Braithwaite is due much credit for evolving the idea of the deleterious effects of mineral salts upon the circulation and we now have a revision of food classifications which show the mineral as well as the caloric value of foods. In his experimental work on mineral elements in

animal nutrition, Forbes [12] says that in a large and general way life may be regarded as a co-ordinated system of electrical responses to electrical stimulation. The ions are bearers of the electricity and on account of this fact they play a leading role in directing the whole process of body metabolism. In order that there shall be perfect response to stimulation of any part of the body there must be perfect nutrition of the part, and perfect balance of the blood flowing in contact with it.

Another constant found in normal blood is the ferment-anti-ferment balance, which bears an important relation to protein metabolism as well as to body resistance to infections. Jobling and Petersen [22] have shown that the blood contains a non-specific ferment, the activity of which under normal conditions is completely inhibited by the excess of anti-ferment in the serum. Any lowering of the anti-ferment alters the balance of this system, and if the change is sufficient, ferment activity becomes apparent, and may be demonstrated by an increase of non-coagulable nitrogen and by the appearance of primary and secondary proteose in the blood. In their experimental work on the starving rabbit, they found that the rate of nitrogen excretion was almost universally proportional to the level of the anti-ferment index and that the anti-ferment could be raised, thus lessening the rate of protein metabolism by the injection of unsaturated fatty acids or their soaps, and furthermore, that any substance which could saturate the unsaturated fatty acid bonds would lower anti-ferment and increase protein metabolism.[14] Their experiments prove that this anti-ferment is lipoidal in character, that it is composed of unsaturated fatty acids in finely dispersed form, and may be removed by any lipoidal solvent.[15] In their work on iodids two years ago, they showed that the action of iodin in tuberculosis was due to its ability to saturate the unsaturated fatty acids present in caseous foci, which, due to their anti-ferment activity, inhibit autolysis. This, they believe, explains why iodids, which lower anti-ferments, are always associated with an increase in protein metabolism, while phosphorus, egg fats and unsaturated fats, as olive oil and cod liver oil, depress protein metabolism by increasing anti-ferment and lead to a storing of nitrogen apart from any intrinsic food value in themselves. It seems to be an established fact that the anti-ferment of the serum is increased during pregnancy, but declines rapidly after delivery. Wilson [16] of John Hopkins, who has described the metabolism of pregnancy, shows also that there is a positive nitrogen balance during this period, while Stern [17] points out the influence of the increased anti-ferment index upon the tuberculin reaction during pregnancy as contrasted with non-pregnant women, and with the period after delivery. Petersen [18] observes that the relation between anti-ferment titer and the nitrogen balance noticed in the starving rabbit holds good in the pregnant woman and probably for a like reason.

As suggested by the work of Jobling and Petersen,[19] we have during the past year made frequent observations on humans, in whom the rate of protein metabolism was found to be noticeably rapid or slow as shown by their nitrogen balance. In all of these cases we have found the rate of nitrogen excretion to be inversely proportional to the level of the anti-ferment index. In two cases, with a constant negative nitrogen balance,



Patient with Colitis and Malnutrition
Complete estimations were made of intake and output, daily. Chart shows average weekly.

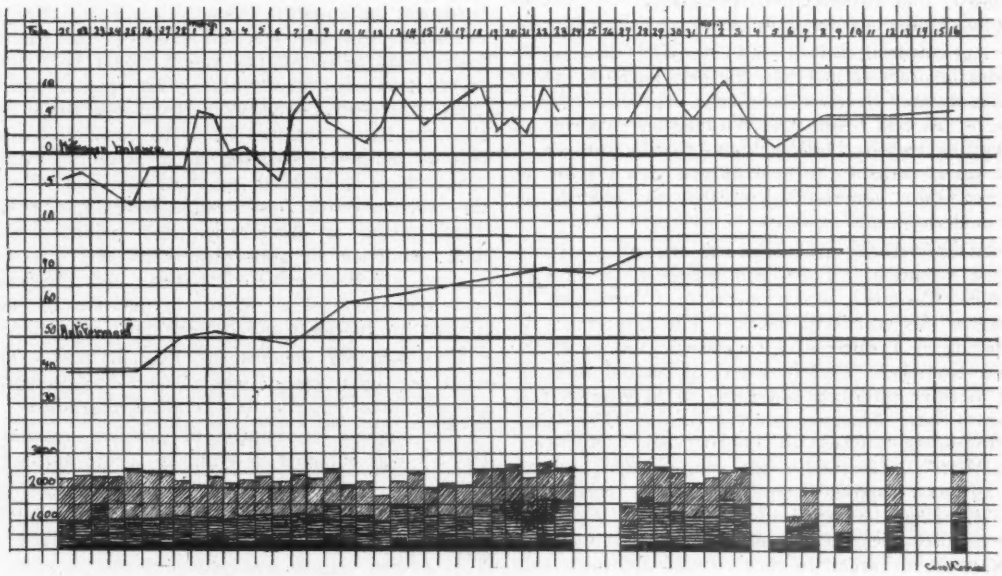
we succeeded in raising the anti-ferment titer and depressing the protein metabolism by feeding alone. The first was a case of malnutrition resulting from a colitis, accompanied by diarrhea, extreme emaciation, painful joints and a daily rise of temperature to 102°. Upon a diet of rice and barley gruel with cream, the colitis disappeared and within a month the stools were normal but the temperature remained unchanged and there was a constant minus nitrogen balance. Foods containing phospho-proteids and unsaturated fats were added to the diet, in gradually increasing amounts. The nitrogen loss became less, equilibrium was soon reached, followed by an increasing positive nitrogen balance. Coincidentally, there was a rise in serum anti-ferment, the tem-

perature became lower and finally normal. As there was no other treatment, this suggests that the temperature and the nitrogen loss were caused by a toxic destruction of proteid due to the disturbed ferment-anti-ferment balance.

The second case was one of hyperthyroidism with the usual rapid heart, moist flushed skin and nervous irritability. DuBois,[22] who has recently studied the metabolism of this condition for the first time in a calorimeter, found that the measurement of the heat production gave the best index of the severity of the disease and the effect of the various treatmnet employed. An increase in the basal metabolism was found with great regularity—in severe cases reaching from 50% to 75% above the normal—a level found in no other condition. He believes that in severe cases the warmth of skin, and sweating can be accounted for entirely by the necessity for the increased elimination of heat produced by the rapid metabolism, and at least a part of the tachycardia is due to the same cause. He thinks it might be possible to reproduce the tachycardia, cardiac enlargement, emaciation and mental irritability, if we were able to stimulate the metabolism of normal men for twenty-four hours a day over a period of months or years. He found that the law of conservation of energy held good in this disease and that there was no disturbance of intermediate metabolism. Our patient was put to bed with the hope of improving her condition and also for observation of her metabolism. On a well-balanced diet containing 2200 to 2300 calories her nitrogen loss reached 7.3 grams per day with no improvement of her clinical symptoms. With the idea of increasing the serum anti-ferment and thus reducing the rate of protein metabolism, we began adding phospho-proteids and unsaturated fats to the diet, taking care to keep the caloric intake and total fats, proteids and carbohydrates at the same figures as before. The result was immediately noticeable on the nitrogen excretion, which gradually decreased until within a week the patient was in a positive nitrogen balance. Coincidentally there was a rise in the anti-ferment index and some improvement in the clinical symptoms.

These cases, while not conclusive, suggest further work on metabolism in infections, malnutrition, and hyperthyroidism.

Still another factor in physiological chemistry awaits our careful investigation. Recent work on the amino-acids points to the possible explanation of many hitherto unexplained problems in metabolism. The defective proteins which are incapable of supporting life or promoting growth are



Patient with Hyperthyroidism
Shaded blocks show daily intake
Calories of Carbohydrates
Calories of Fat
Calories of Proteid
February 25 – Started feeding Phospho-proteins and unsaturated fats
March 5 – Operation on member of family
March 24 – Removal of Adenoma of right lobe.
April 4 – Temporary Edema of Larynx.

found to be lacking in one or more of these amino-acids which are most important in the functioning of the organism. Alsberg [23] has recently shown that physiologically active substances may be formed from amino-acids and that if the main nitrogenous element of the diet is one of the defective proteins there may be an imperfect functioning through failure to supply the raw materials needed by certain glands to elaborate their specific products. The normally functioning thyroid gland contains the iodine compound now believed to be formed from tryptophane. Therefore, if the diet contains no tryptophane, a corresponding disturbance of this gland's function results. This iodine compound of the thyroid is physiologically active and its over-production is a poison. Iodine compounds saturate unsaturated lipoids and lower anti-ferment, increasing protein metabolism; unsaturated fats, and phosphorous nitrogen compounds in foods increase anti-ferments and lessen the rate of protein metabolism which is the most prominent symptom in hyperthyroidism, malnutrition and infections. Adrenalin, also a physiologically active substance, is probably derived from the amino-acid tyrosine and a lack of this substance in the diet indirectly lowers the function of the adrenal glands. The amino-acid histodin is supposed to be the origin of pituitrin which is manufactured by the pituitary gland, and Emerson has recently shown that para-oxyphenypethylamin is formed from tyrosine in the self-digestion of the pancreas.

Agricultural chemists are studying these questions in order to ascertain the best foods on which animals may develop, grow and reproduce. In a recent address before the Washington Academy of Sciences Eugene DuBois [24] says that in the course of years, perhaps the food of sick men may be as scientifically administered as that for animals on a modern farm.

Already these questions are attracting nation-wide attention. The ninth quinquennial Scandinavian Congress, which meets in Copenhagen in August this year, will discuss "The Importance of Dieting in Treatment of Insufficiency of the Heart and Kidneys." The twenty-third annual meeting of German internists convening in Wiesbaden this month have addresses announced on "The Constitution as a Cause of Disease" and "Nutrition in War." Everywhere the consideration of adequate food supplies from an economic standpoint is engaging the attention of experts. We have been called upon to increase production and diminish waste in order to meet actual demands, and it is of vital importance that in so doing we shall understand how best to keep the fuel supply so that the human machine may be kept in proper repair.

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PRACTICAL VALUE OF THE COMPLEMENT FIXATION TEST FOR GONORRHEA.

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In a recent article upon the "sero-diagnosis of gonorrhea," [1] attention was directed upon certain contradictory features and various serious drawbacks to the accuracy of the test, which are prone to create confusion instead of adding enlightment in doubtful cases. This being true, it is obvious that the practical value of the test as a diagnostic guide of last resort would be robbed of its most significant value. The points particularly interesting, and in need of elucidation in this connection, seem to be: Are serological and clinical findings coinciding at a percentage sufficiently high as to be of practical significance? Is the reaction of the test flexible enough as to indicate phases of exacerbation and remission and final extinction of gonorrheal infection? Is the test of practical value to patient and physician with regard to the all important questions of continued infectiousness and contemplated matrimony?

Five hundred complement fixation tests were made on 403 cases, which were conveniently grouped according to their clinical diagnoses.

The highest percentage of positive reactions (65%) was obtained in group 2 (acute and subacute ant. and post. urethritis) and the lowest (28%) in group 4 (urethral stricture). The average of positive reactions of all tests combined was 47.8%.

The positive reactions obtained in cases of acute urethritis of group 1 can be explained on the basis of a previous specific infection.

The 9th group of "miscellaneous" cases comprises clinical lesions in which a gonorrhoric infection was neither complained of by the patient nor suspected by the physician (prostatic hypertrophy, syphilis, renal lesions, etc.) In 31 of the 64 tests, made in this group of 62 patients, the reaction was positive. The greater number of these positive cases did not reveal, upon examina-

1. Cal. State Jour. of Med., Nov. 1916.

tion, any anamnestic or clinical evidence of gonorrhea.

In a number of cases, on the other hand, the examination, carried out with a view to corroborate the positive serological result, led to the discovery of a chronic specific focus.

There were also observed a few cases in which, in spite of manifest specific infection (gonorrheal prostatitis), a persistently negative reaction was recorded.

The result of the test in the large group of cases of chronic involvement of the urethral adnexae (prostatitis and vesiculitis) tallied fairly well with that reported by me previously (60 against 57%).

The group designated as sexual neurasthenia comprises those frequent affections of the genitourinary sphere, in which the intensity of the symptoms is not corroborated by any or only by insignificant clinical findings. The majority of these sufferers gave a history of a previous gonorrheal attack which, in their opinion, was responsible for the train of untoward symptoms. In 48 of the 66 cases, that came under observation (72.6%), the reaction was either doubtful or negative. The total of positive reactions, though, of 38 cases, or 40.5%, is surprisingly high in a condition with definite or negative underlying clinical findings. In a number of instances the test, upon repetition, remained positive and in some it even increased in intensity. It was in these few observations where the test exhibited its diagnostic value, since, upon repeated and painstaking local investigation, some apparently insignificant foci were detected, the removal of which signalized improvement and cure. In one case, for instance, the removal of a few tiny, pinhead-like granulations on the veru montanum, which were detected by means of the irrigation-endoscope, was followed by abatement of long standing and severe subjective symptoms, and in another observation symptomatic relief was precipitated by the electrolytic treatment of a solitary Morgagni's crypt which, at first, had escaped endoscopic detection.

The value of the test for the correct interpretation of this type of cases seems the more striking on account of the well known continued infectiousness of these local conditions, which may stay active for many years, if proper local treatment is not instituted.

The relatively high percentage of positive reactions in this type of cases would, besides that, point to their intimate relation with the so-called latent stage of gonorrhea, in which no symptom of the disease is exhibited, and where a persistently positive serological result should be the indication for search of a focus by means of repeated microscopic, bacteriologic and endoscopic investigation. I am under the impression, that the percentage of pure neuroses will be reduced by these means, though it cannot be denied, that in many instances, the most painstaking examination will fail to reveal an anatomical basis for a continuously positive reaction.

This brings us to the important question of matrimony in connection with the complement fixation test for gonorrhea.

An analysis of this table demonstrates rather bizarre, if not confusing results.

Of 18 husbands 16 had a positive and 2 a negative reaction.

Both wives of the 2 husbands with a negative test had a positive reaction.

In 12 of the 16 husbands with positive tests no anamnestic and clinical findings could be obtained.

Both wives with positive reactions were found to be clinically free from gonorrhea.

Several observations, in which the positive reaction persisted on repetition of the test, concerned old men with healthy wives and large families. In most of these cases a gonorrheal attack in early manhood was admitted. The question then arises, in connection with these observations, whether in some generalized gonorrheal infections antibodies persist permanently.

In a number of matrimonial candidates with a previous gonorrheal infection and presenting negative clinical and persistently positive serological findings, I was able to follow up the outcome of the eventually effected matrimonial venture for several years past, and found it to be entirely satisfactory as regards wife and issue. I have, therefore, come to regard a positive reaction, unless very strongly positive, as not necessarily contraindicating permission to matrimony, provided the candidate be found clinically free from gonorrhea on repeated examination.

In order to ascertain data upon the flexibility of the test in connection with the clinical course of gonorrhoic infection serological tests in 77 cases were repeated at regular intervals.

In 30 cases, or 39%, the reaction changed from positive to doubtful or negative, demonstrating coincidence of improvement, or entire disappearance of clinical symptoms and bacteriological findings.

Nine cases, or 12%, showed serological alongside with clinical improvement by exhibiting a weaker positive reaction.

Twenty-seven cases, or 35%, remained serologically stationary at either positive or negative, independent of the clinical course.

Eleven cases, or 14%, showed, during treatment, a variable serological reaction which, in several instances, was entirely contradictory to the clinical course.

The foregoing tabulated investigations seemed to point to a comparatively wide discrepancy between clinical and serological findings. The further study of my material was, therefore, conducted with a view to ascertain some weak links in the chain of components of the complement fixation test for gonorrhea.

As pointed out in my previous report[2] the most important drawback to the accuracy of the test was considered to lie in the different prep-

2. l. c. p. 7.

aration and efficacy of various antigens, depending upon the character and number of gonococci-strains contained in polyvalent antigens.

A number of cases were, therefore, tested with various antigens, in order to study their effect upon the character and intensity of the reaction. Of 143 cases examined at the Pacific Wassermann Laboratory 24 were tested with one, 60 with 2, and 29 with 3 antigens. Of the 60 cases, examined with 2 antigens, 36 showed with both a negative, and 23 with both a positive reaction, and in only one case was a discrepancy found between a negative and positive result.

In my desire to obtain comparative data upon the effects of various antigens I submitted Dr. Warden's antigen, which he kindly forwarded to me, to 2 laboratories. This antigen, as stated by its maker,[3] is composed of the gonococcus fats dissolved in alcohol and has been employed in several hundred cases. One laboratory (Pac. Wassermann) found that antigen unsatisfactory "on account of being too hemolytic," while Dr. Werner, the serologist of the German Hospital, declared it to be highly anticomplementary when used in even weaker dilutions than those recommended by the maker. The antigen is at present only supplied for research purposes.

The following table contains comparative test-results by determinations with two or more antigens from two different laboratories.

In table VI-a, sixteen cases, or 55%, reacted uniformly negative, two cases, or 7%, reacted uniformly positive, showing, by these means, coincidence in 62%, while in 11 cases, or 38%, the test-results were slightly variable as regards intensity of positive reactions.

In table VI-b, fourteen cases, or 41%, reacted uniformly negative, two cases, or 6%, reacted uniformly positive, showing coincidence of tests with both antigens in 47%. In 7 cases, or 20%, the test-results varied slightly as regards positive reactions; while in some of the remaining cases reactions of glaring discrepancy occurred.

In order to prove to my own satisfaction the practical value of the test, as carried out at present at the average reputable laboratory, I gathered simultaneous reports from three different laboratories in a large number of cases.

This table shows that counting the doubtful results as negative, in 24 cases, or 24%, a uniformly negative, and in 7 cases, or 7%, a uniformly positive reaction was reported, giving a total of 31% of coinciding reports from all 3 sources, while in 69% of the cases more or less widely differing reports were submitted.

It is obvious, that the practical significance of the test is jeopardized, unless more uniform and reliable results can be obtained from the average reputable laboratory. There is a certain tendency extant in the ranks of the average practitioner to rely almost dogmatically upon laboratory reports and base upon their summary findings, after an incomplete and hasty clinical investigation, momentous decisions. If such a procedure will result in frequently disastrous errors in the case of syphilis, how much greater is the responsibility devolving upon the physician to render an opinion upon the future fate of a matrimonial candidate solely upon the strength of a laboratory-report based on the complement fixation-test for gonorrhea?

That the test is wanting in exactness and thus possesses serious drawbacks from a practical standpoint is becoming more generally appreciated. Most important factors in this connection, according to Kolmer[4] are difficulty of isolating and preserving a sufficient number of true strains of gonococci in order to prepare a satisfactory polyvalent antigen, and the weakness or indefinite character of complement-fixation reactions due to the slight quantity of antibody produced in a localized gonococcus infection. In other words: On account of the comparatively slight cellular involvement the quantity of antibody produced in a local gonorrheal focus is probably very small and, therefore, complement fixation reactions are generally weak and consequently the utmost technical attention is required, especially as regards preparation of antigen and accurate adjustment of hemolytic system.

The technique of the test as carried out by Dr. Werner at the German Hospital is as follows: The serum of the patient's blood is inactivated by heating to 56° C. for half an hour. Then the natural amboceptor is eliminated by adding an equal quantity of a 5% suspension of sheep's corpuscles in normal salt-solution and deamboceptrization is effected by incubating for 30 minutes at 37° C. After centrifugalizing, 0.4 of this serum is poured into each of 3 tubes containing complement and 2 antigens respectively, the first tube serving as anticomplementary control. They are then placed in a water-bath for 30 to 45 minutes.

Meanwhile the hemolytic system is titrated by mixing 0.2 of red-cells suspension with 0.1 of amboceptor in various dilutions, and 0.2 as well as 0.4 of complement respectively.

For the second incubation a 0.4 sheeps-corpuscles amboceptor mixture is used, which has been previously incubated for half an hour.

A number of tests were controlled by the use of the anti-human hemolytic system, but the results were not found to be more conclusive than those tested with the anti-sheep hemolytic system.

The Pacific Wassermann Laboratory submitted the following report upon their technique employed for the gonorrhea complement fixation test:

The technique employed for this test is identical with that used for the classical Wassermann reaction, with the exception of the antigens employed. For the gonorrhea test we use three different antigens made from gonococcus cultures. The antigens before being employed in the test proper, are titrated and tested for binding and

3. J. Am. Med. Ass'n., Feb. 1917.

4. Infection. Immunity and specific therapy; 1915, p. 484.

anticomplementary action and two units employed for the test.

The reaction is controlled by using tubes that control and prove the potency of all other reagents employed.

A known positive and negative serum is always run through with the tests.

Dr. Hirschfelder has described a "simplified" technique employed by him in the test [5] from the more general use of which he predicts more satisfactory and uniform results.

I have purposely dilated upon the question of laboratory-technique in order to disarm any criticism directed to that source of error.

Since the obtaining of pure culture of gonococci is very difficult, even at the hands of trained laboratory-workers, the average serological institution uses antigens furnished by large commercial laboratories, upon the accuracy of which the whole test rests. In the serological test for syphilis, on the other hand, every laboratory worker is able to produce and appropriately test his own antigen and, thus, obtain reliable and uniform results. The exclusion, in other words, of the personal equation in estimating the value of a self-prepared antigen, renders the reaction to the laboratory-worker himself less conclusive, who is well aware, that, even under observance of the most faultless technique, the result of the test may be vitiated by application of a poor antigen.

5. J. Am. Med. Ass'n., April 1916.

Conclusions.

Standardized technique and antigens are indispensable prerequisites toward rendering laboratory reports upon the complement fixation test for gonorrhea more uniform and reliable.

The test is valueless for practical purposes, unless uniform reactions can be obtained in at least 80 per cent.

Only strongly positive reactions are of diagnostic significance and may, occasionally, lead to the detection of a hitherto unsuspected specific focus.

A weakly positive, or doubtful reaction is, in all probability, entirely valueless for practical purposes, since an old and non-infectious, encapsulated gonococcic focus may produce a strongly positive result, while a matrimonial candidate with an infectious urethro-prostatitis may exhibit a weak or negative reaction.

It is safe to say, that the complement fixation test will never assume the importance for gonorrhea, that the Wassermann test possesses for syphilis.

TABLE I.

Result of Test According to Clinical Diagnosis.

Clinical Diagnosis.	Number of Cases.	Number of Tests.	Positive.	Negative.	Doubtful.	Per Cent. Positive.
1. Acute anterior urethritis	10	10	3	6	1	30%
2. Acute and subacute antero-posterior urethritis	18	20	13	6	1	65%
3. Chronic posterior urethritis, prostatitis and vesiculitis	194	238	143	79	16	60.1%
4. Stricture of urethra	5	7	2	4	1	28%
5. Epididymitis	23	36	21	9	6	58.3%
6. Gonorrheal artritis	4	6	3	3		50%
7. Sexual neurasthenia and impotence	66	94	38	47	9	40.4%
8. Vulvo-vaginitis and gynecological affections	21	24	12	9	3	50%
9. Miscellaneous	62	64	31	23	10	48.4%

TABLE II.

Positive Reactions Obtained in Non-Gonorrhoic Clinical Lesions Without Specific Findings and History.

Name and Age.	Diagnosis.	C. F.	Remarks.
C. B., 34	Pain in kidney region.	x	Married; 2 healthy children. No history of gonorrhea.
W. S., 69	Prostatic hypertrophy.	x	Gonorrhea many years ago. No symptoms.
M. A., 61	Prostatic hypertrophy.	xx	Gonorrhea 40 years ago. No symptoms.
J. B., 68	Cancer of prostate.	x	No history or symptoms of gonorrhea.
Mrs. L., 23	Renal tuberculosis.	x	No history. No symptoms of gonorrhea.
J. F. G., 51	Balano-posthitis. Circumcision.	x	Married 25 years. No symptoms or history of gonorrhea.
J. R., 27	Secondary syphilis.	xx	No history. No symptoms of gonorrhea.
H. W., 40	Progenital eczema.	x	No history. No symptoms of gonorrhea.
J. M., 34	Genital tuberculosis	x	Married; 2 healthy children. No history. No symptoms of gonorrhea.

x stands for a definite, and xx for a strongly positive reaction.

Name and Age.	Diagnosis.	C. F.	Remarks.
H. K., 25	Balano-posthitis.	x	No history. No symptoms of gonorrhea.
Mrs. W. C., 33	Nervous polyuria.	x	Pregnant 3 months; 2 healthy children. Findings for gonorrhea negative.
H. C. C., 40	Secondary syphilis.	x	No history. No symptoms of gonorrhea.
Mrs. W. S., 33	Chronic nephritis.	x	Three healthy children. No symptoms; no findings for gonorrhea.
Mrs. A. McC., 29	Secondary syphilis.	x	No symptoms. No findings for gonorrhea.
C. G., 35	Secondary syphilis.	x	No gonorrheal history. No findings.
H. S., 64	Cardio-renal hypertension.	x	No history. No symptoms of gonorrhea.
E. H., 69	Prostatic hypertrophy.	x	No symptoms; no history of gonorrhea.
H. K., 60	Cancer of bladder.	x	Several healthy children. Gonorrhea 40 years ago. No symptoms at present.
W. S., 60	Cyst of cord.	x	Gonorrhea many years ago; 6 healthy children. No symptoms. No findings of gonorrhea.
F. W., 51	Cardio-renal hypertension.	x	No history. No symptoms of gonorrhea.
N. W. F., 48	Sexual neurasthenia.	x	No symptoms. No findings for gonorrhea.
Mrs. L. S., 24	Reteroflexio uteri.	x	No symptoms; no findings for gonorrhea. Husband treated for gonorrhea several years ago.

TABLE III.

Miscellaneous, Apparently Non-Gonorrheic Lesions with Positive Focus which, upon Examination, Revealed a Specific Focus.

Name and Age.	Diagnosis.	C. F.	Remarks.
J. C. B., 33	Secondary syphilis.	xx	Prostatic juice; mass of pus cells. No gonococci.
M. G., 60	Incipient prostatism.	x	Prostatic juice; large amount of pus cells and dead spermatozoa. No gonococci. Gonorrhea many years ago.
G. C., 57	Balano-posthitis.	x	Posterior urethritis and prostatitis. Gonococci negative.
L. S., 29	Hemorrhoids.	x	Moderate prostatitis. No gonococci.
A. S., 46	Secondary syphilis.	xx	Chronic prostatitis. Gonococci doubtful.
J. C. H., 52	Frequent urination. Beginning prostatism.	xxx	Severe prostatitis. Gonococci positive.
J. E. M., 47	Sexual neurasthenia. Lumbago.	xx	Marked prostatitis and vesiculitis.
J. M., 46	Lumbago. Renal colic?	xxx	Marked prostatitis. Gonococci doubtful.
S. R., 22	Secondary syphilis.	xx	Severe prostatitis. No gonococci.
H. L., 25	Pain in left kidney region.	xx	Chronic prostatitis and vesiculitis. Gonococci positive.
L. E., 35	Multiple arthritis.		Severe prostatitis. Gonococci negative. Admitted acute gonorrhea several months ago.

TABLE IV.

Showing Relation of Serological and Clinical Findings as Ascertained in Married Couples.

Name and Age	Diagnosis.	C. F.	Diagnosis in Wife.	C. F.	Remarks.
H. H., 64	Prostatic Hypertrophy.	Pos.	No gonorrheal history; no findings.		Several grown up and healthy children.
L. S., 29	Chronic prostatitis.	Pos.	Retroflexio uteri; Adnexae free.	Pos.	Two healthy children. No gonococci in husband or wife.
L. S., 40	Polypi at internal sphincter.	Pos.	No findings for gonorrhea.		Two healthy children; last confinement one week ago.
J. C. K., 29	Chronic prostatitis.	Neg.	Slight vaginal mucous discharge.	Pos.	No gonococci in either husband or wife.
W. S., 34	Chronic nephritis.	Neg.	Chronic nephritis.	Pos.	No history of gonorrhea; no symptoms; 3 healthy children.
W. H. McC., 33	Chronic prostatitis.	Pos.	Slight vaginal mucous discharge.	Neg.	Husband Epidym 6 months ago. At present no symptoms. Gonococci negative in both; three healthy children.
J. C., 32	Chronic prostatitis.	Pos.	Slight vaginal mucous discharge.	Neg.	Gonococci negative in both.
W. S., 33	Chronic prostatitis; Secondary syphilis.	Pos.	Severe mucopurulent vaginal discharge.	Neg.	Husband: Gonorrhea 2 years ago; gonococci negative in both.

Name and Age.	Diagnosis.	C. F.	Diagnosis in Wife.	C. F.	Remarks.
W. H. McN., 29	Sexual weakness.	Pos.	Pregnant 3 months Adnexae free.	Neg.	Husband: No history of gonorrhea; no symptoms; gonococci negative in both.
H. F., 37	Chronic prostatitis; Sexual weakness.	Pos.	Adnexae free; no symptoms of gonorrhea.	Neg.	Married 15 years; one healthy daughter of 14; Gono. negative in both.
J. E. G., 33	Secondary syphilis.	Pos.	No findings for gonorrhea.		No history of gonorrhea in husband; no gonococci.
W. S., 69	Prostatic hypertrophy.	Pos.	No symptoms; no findings for gonorrhea.		Large family of grown children, all married.
F. C. W., 51	Cardio renal hypertension.	Pos.	No symptoms; findings for gonorrhea negative.		Husband: No history of gonorrhea; gono. negative.
A. R., 57	Left-sided orchitis.	Pos.	No symptoms; no findings for gonorrhea; several miscarriages.		Wassermann ××; no gonococci.
W. S., 60	Cyst of cord on left side.	Pos.	No symptoms; no findings for gonorrhea.		Gonorrhea 40 years ago, gono. negative; six grown, healthy children, all married.
W. H. W., 33	Chronic prostatitis.	Pos.	No symptoms; no findings for gonorrhea; Adnexae free.	d	Gonorrhea 3 years ago; gonococci negative in both.
E. H., 68	Prostatic hypertrophy.	Pos.	No symptoms; no findings for gonorrhea.		Five grown children, all married; gon. negative in both.
H. K., 61	Cancer of bladder.	Strongly Pos.	Cancer of bowels. Died recently.		Wassermann ×××; 3 healthy children; gono. negative; no symptoms.

d stands for doubtful

TABLE V.

Containing 77 Cases, with Clinical Diagnosis and Findings at Discharge, in which Two and More Tests Were Made.

Name.	Diagnosis.	Compl. fix.	Remarks.
F. G.	Chronic prostatitis.	xx, —	Prostatic juice. Mass of pus-cells. No lecithin. Symptomatically improved.
E. J. G.	Sexual neurasthenia.	d, —	No history of gonorrhea. No symptoms.
A. S. H.	Sexual neurasthenia.	—, x, —, —	No history of gonorrhea. No symptoms.
A. S. J.	Chronic prostatitis.	xx, x, —	Gonorrhea 3 years ago. Symptomatically improved.
G. A. J.	Chronic prostatitis.	x, —	Symptomatically improved. Prostate still shows many pus-cells.
C. A. J.	Chronic prostatitis.	xx, x, —	No symptoms. Gonococci negative at discharge.
G. A. J.	Chronic prostatitis.	x, —	No symptoms. Gonococci negative at discharge.
C. K.	Chronic prostatitis. Sexual neurasthenia.	xx, x, xxx, —	Prostatic juice; mass of pus-cells; when last seen. Gonococci negative.
F. K.	Balano-posthitis. Circumcision.	—, xx	No history of gonorrhea. Prostatic juice normal. Gonococci negative.
A. L.	Subacute ant. and posterior urethritis.	xx, —	Condition 3 months' standing. No symptoms. Gonococci negative at discharge.
J. L.	Chronic prostatitis and vesiculitis.	x, —	Marked improvement at discharge. Prostatic juice; a number of pus-cells. Gonococci negative.
J. L.	Sexual neurasthenia.	x, —, —	Had gonorrhea 3 years ago. No symptoms. Gonococci negative.
E. N.	Sexual neurasthenia.	x, xx, —	Had gonorrhea several years ago. No symptoms. Gonococci negative.
M. McM.	Sexual neurasthenia.	xx, x, —	Had gonorrhea many years ago. Findings negative. Gonococci negative.
J. C. McD.	Gon. epididymitis and prostatitis.	xx, —	Prostate; mass of pus-cells. No lecithin. Gonococci doubtful.
W. McP.	Chronic prostatitis.	x, —	Symptoms of sexual neurasthenia. No findings. Gonococci negative.
C. M.	Chronic prostatitis.	d. —	No findings. Gonococci negative at discharge.
K. M.	Chronic prostatitis.	x, —, —	No findings. Gonococci negative at discharge.
C. M.	Gon. epididymitis and prostatitis.	x, —	Prostate; mass of pus. Gonococci positive.
G. U.	Sexual neurasthenia.	x, xx, —	Findings for gonorrhea negative. Gonococci negative.
A. W.	Sexual neurasthenia.	x, —	No findings for gonorrhea. Gonococci negative.

— stands for negative reaction.

Name.	Diagnosis.	Compl. fix.	Remarks.
C. W.	Vulvo-vaginitis.	x, —	Vaginal discharge less purulent. No gonococci found in spite of frequent search.
C. P.	Chronic prostatitis. Sexual neurasthenia.	x, x, —, xx	No findings for gonorrhea. Gonococci negative.
C. R.	Chronic prostatitis and vesiculitis.	xx, x	No symptoms at present. Gonococci negative.
J. S.	Sexual neurasthenia.	xx, x, x	Had gonorrhea several years ago. No findings. Gonococci negative.
M. B.	Abscess of prostate. Gonococci positive.	x, x	Symptomatic cure. Prostate normal. Gonococci negative.
M. C.	Chronic prostatitis. Gonococci positive.	—, —, —	Prostate still contains many pus-cells. Reduced lecithin. Gonococci at present negative.
N. F.	Sexual neurasthenia.	x, x	Prostatic juice normal. No symptoms. Admits gonorrhea many years ago. Gonococci negative.
F. G.	Chronic prostatitis. Gonococci positive.	—, —	Wassermann xxx. Prostate mass of pus. No lecithin. Still under treatment.
E. G.	Chronic prostatitis. Acute epididymitis.	x, x	Married; wife healthy. Symptomatically improved. Gonococci negative.
A. S. G.	Chronic prostatitis.	—, —	Gonorrhea 15 years ago. No symptoms. Gonococci negative.
R. G.	Chronic prostatitis.	—, —, —	Prostate normal. Gonococci negative.
A. L.	Gonorrheal epididymitis.	—, —	Prostate normal. At present gonococci negative.
J. E. M.	Chronic prostatitis.	x, x, x, x	Prostatic juice; mass of pus; no lecithin. Of late less pus, appearance of lecithin. Gonococci never found.
O. M.	Sexual neurasthenia.	x, x	Had gonorrhea several years ago. No symptoms. Gonococci negative.
G. M.	Chronic prostatitis.	d, d —	Had gonorrhea several years ago. At present no symptoms. Gonococci negative.
K. M.	Varicocele. Sexual neurasthenia.	—, —	Prostate normal. Gonococci negative.
J. V.	Chronic prostatitis.	—, —	At present no symptoms. Gonococci negative.
H. W.	Stricture of ant. urethra.	—, —	Prostatic juice normal. Gonococci negative.
F. W.	Cardio-renal hypertension.	x, x	No history of gonorrhea. No findings. Gonococci negative.
J. S.	Sexual neurasthenia.	x, d	No gonorrheal history. Married. Wife healthy. No findings. Gonococci negative.
M. A.	Prostatic hypertrophy.	x, d	Had gonorrhea 40 years ago. No findings. Gonococci negative.
O. J, B.	Gon. epididymitis and prostatitis.	xx, d	Prostatic juice contains many pus-cells. Gonococci negative at discharge.
O. G.	Gonorrheal epididymitis.	xxx, x	Gonococci had disappeared at last examination.
T. G.	Chronic prostatitis and vesiculitis.	xx, xxx	Prostatic juice mass of pus-cells. Dead spermatozoa. Gonococci positive. No gonococci found when last examined.
M. L.	Chronic prostatitis. Gonococci positive.	x, d	Prostatic juice; many pus-cells; some lecithin. No gonococci when last seen.
L. M.	Chronic prostatitis.	x, xx	Prostate; moderate amount of pus-cells. Gonococci negative.
J. F. M.	Secondary syphilis. Chronic prostatitis.	xx, x	Prostate; moderate amount of pus-cells. Gonococci negative.
J. O.	Sexual neurasthenia.	xxx, x	Prostatic juice normal. No findings. Gonococci negative.
J. P.	Chronic prostatitis.	x, d	Gonococci negative.
J. S.	Chronic prostatitis.	xx, x	Prostate; mass of pus. Gonococci negative. Patient recently married. Wife healthy; 3 months pregnant.
S. T.	Gonorrheal epididymitis.	xx, x	Gonococci positive. Symptomatically improved at present. Gonococci negative.
P. Y.	Chronic prostatitis.	xx, x	Prostate: mass of pus. No lecithin. Symptomatically improved. Gonococci negative.
M. P.	Epididymitis.	—, —	Prostatic juice normal. Married recently. Wife healthy.
C. R.	Sexual neurasthenia.	d, d	Gonorrheal history. No findings at present. Gonococci negative.
W. R.	Chronic prostatitis.	x, x, x, x	Severe nervous symptoms. Prostatic juice mass of pus-cells. No lecithin; local and general symptoms markedly improved. Gonococci negative.
J. S.	Sexual neurasthenia.	—, —	No findings. Gonococci negative.

Name.	Diagnosis.	Compl. fix.	Remarks.
J. S. S.	Chronic prostatitis. Secondary syphilis.	x, x	Prostatic juice; moderate amount of pus-cells. Gonococci negative.
J. B.	Chronic prostatitis. Secondary syphilis.	xx, xx	Prostatic juice; moderate amount of pus-cells; no other symptoms. Gonococci negative.
A. B.	Sexual neurasthenia. Chronic prostatitis.	—, —	Gonococci negative.
A. L. R.	Chronic prostatitis.	x, —, —	No symptoms. Gonococci negative at discharge.
J. S.	Chronic prostatitis and vesiculitis.	xx, xxx, d, —, x	Symptoms gradually improving. Tests made at monthly intervals.
A. S.	Subacute gon. ant. urethritis, 6 weeks' standing.	x, d,	Cured after 6 weeks' treatment. Symptoms and gonococci negative.
W. S.	Chronic prostatitis.	x, —	Prostatic juice contains mass of pus. No gonococci. Married; wife no symptoms.
J. S.	Sexual neurasthenia.	xx, x	Had gonorrhea several years ago. At present negative findings. No gonococci.
A. S.	Chronic prostatitis and vesiculitis.	xx, x, —, d	Symptoms gradually improving. Prostatic juice contains moderate amount of pus. Gonococci negative.
A. S.	Chronic prostatitis.	—, x	Wife after several months of absence abroad shows acute valvo-vaginitis. Gonococci negative.
A. A.	Sexual neurasthenia.	d, —	No history of gonorrhea. No symptoms.
O. A.	Chronic prostatitis.	—, x	Gonorrhea several years ago. Patient considerably improved. Gonococci negative.
M. B.	Chronic prostatitis.	xx, —	No more symptoms. Gonococci negative.
J. C.	Chronic prostatitis.	—, x	Prostatic juice shows mass of pus. Symptomatically improved. Gonococci negative.
W. J. C.	Gonorrheal arthritis.	x, xx, —	No symptoms. No gonococci at discharge.
R. F.	Secondary syphilis.	d, —	No history of gonorrhea. No symptoms.
G. F.	Chronic prostatitis. Sexual neurasthenia.	x, —	No symptoms. Gonococci negative at discharge.
A. J. F.	Gonorrheal epididymitis and prostatitis.	d, —, —,	Prostatic juice shows many pus-cells. No symptoms. Gonococci negative.
J. G.	Chronic prostatitis and epididymitis.	d, —	Prostatic juice shows many pus-cells. At left epididymis hard nodule.
E. G.	Chronic prostatitis and vesiculitis.	—, xx	Urine cloudy, containing much pus microscropically Prostatic and vesicular secretion: Abundant pus. No gonococci.

— stands for negative.

TABLE VI.

A

Containing 29 cases examined at the Pacific Wassermann Laboratory with three different antigens.
McN.=McNeil's.
P. W. L.=Pacific Wassermann Laboratory.
P. D.=Parke, Davis & Co.

Name	McN.	P. W. L.	P. D.
M.	—	—	—
J. H. B.	—	—	—
K.	—	—	—
W.	—	—	—
E.	—	—	—
N.	—	—	—
P.	—	—	—
C. L.	—	—	—
Mrs. H. K.	—	—	—
O. H.	—	—	—
H. S.	—	—	—
V.	—	—	—
W.	—	—	—
W. S.	—	—	—
S. R.	—	—	—
S.	—	—	—
A.	x x x	x x x	x x x

B

Containing 34 cases examined at the Serolog. Lab. of the German Hospital with two different antigens.
M.=Mulford's.
W.=Warden's.

Name.	M.	W.
C. R. P.	—	—
E. L. R.	—	—
W. W.	—	—
W. S.	—	—
A. E. G.	—	—
H. H.	—	—
H. B.	—	—
M. A.	—	—
W. S.	—	—
W. R.	—	—
Mrs. L. S.	—	—
M. Z.	—	—
J. S.	—	—
A. D.	—	—
A. S.	x	x
D. H.	xx	xx
M. S.	xx	—

Name	McN.	P. W. L.	P. D.
C.	xxx	xxx	xxx
R.	xx	xxx	xxx
B.	xx	xxx	xx
C.	x	x	—
M. C.	xxx	xxx	xx
L.	xx	xxx	xx
B.	xx	xxx	xx
H.	xxx	xxx	xx
H.	x	xx	x
M. B.	xx	xx	xxx
L.	xx	xxx	xx
E. G.	x	xx	x

Name	M.	W.
E. S.	—	x
L. S.	—	xx
J. V.	x	xx
R. F.	—	xx
G. K.	—	x
J. H.	x	—
J. B.	—	xx
F. G.	xx	—
M. B.	x	xx
B.	xx	xxx
C. B.	x	xxx
A. B.	d	xxx
O. L.	x	xx
A. S.	xx	x
S. B.	—	x
A. J. R.	—	x
A. A.	x	xx

TABLE VII.

Table of 100 cases containing brief clinical data, and serological results, as reported by three laboratories. Gon.=gonococci; H.=Dr. J. O. Hirschfelder's laboratory; Pac.=Pacific Wassermann Lab.; G. H.=Lab. of German Hospital.

Name and Age.	Diagnosis.	Gon.?	Compl. fix. tests. H.	Pac.	G. H.	Remarks.
J. F.—40	Negative findings as regards gonorrhea.	No.	x	x	—	No history of gonorrhea.
J. F. McC.—21	Primary lesion on penis.	No.	xx	—	—	Negative findings for gonorrhea. Gonorrhea 8 months ago.
A. A.—32	Negative findings for gonorrhea.	No.	x	—	xx	Gonorrhea 1913 and 1914, complicated by swollen testicles.
S. T.—27	Gonorrheal Epididymitis.	Yes.	xx	xxx	xx	First attack of gonorrhea 9 months ago.
S. W.—30	Secondary syphilis negative findings for gonorrhea.	No.	—	x	—	Married. Wife sound. One healthy baby.
G. U.—25	Sexual neurasthenia colliculitis.	No.	x	xx	—	Gonorrhea 18 months ago.
L. N.—26	Chronic prostatitis.	No.	x	xx	—	Gonorrhea 8 years ago.
J. C.—36	Chronic prostatitis polyp. at int. sphincter.	Yes.	—	—	—	Sexual weakness, ejaculatio praecox.
F. G.—39	Chronic prostatitis colliculitis.	No.	—	xxx	xx	Wassermann xxx.
R. R.—24	Chronic prostatitis colliculitis.	No.	x	xx	d	Gonorrhea 3 years ago.
H. W.—30	Stricture in ant. urethra near ext. sphincter.	No.	—	—	—	Gonorrhea 3 years ago.
O. A.—45	Chronic prostatitis.	No.	—	—	—	Sexual weakness. Gonorrhea 6 years ago.
A. D.—32	Acute ant. gono. urethritis.	Yes.	—	—	d	Gonorrhea 4 years ago.
F. R. B.—44	Balano-posthitis.	No.	—	—	d	No history of gonorrhea.
G. C.—30	Secondary syphilis.	No.	—	—	d	No history of gonorrhea.
P. M.—24	Chronic prostatitis.	No.	x	xxx	x	
A. L. R.—41	Chronic prostatitis colliculitis.	No.	—	xxx	—	Married. Wife healthy. One healthy child.
P. B.—29	Cerebro-spinal syphilis.	No.	—	x	d	Left seminal vesicle enlarged and indurated.
H. R.—26	Subacute ant. gon. urethritis.	Yes.	—	—	d	Profuse spontaneous discharge at meatus. Gonorrhea 6 weeks standing.
W. Z.—28	Chronic ant. urethritis.	No.	xx	x	—	
W. M.—27	Acute ant. gon. urethritis.	Yes.	—	—	—	Had several gonorrheal attacks during past few years.

d stands for "doubtful."
— stands for negative.

Name and Age.	Diagnosis	Gon.?	Compl. fix. tests. H.	Pac.	G. H.	Remarks.
F. G.—34	Chronic prostatitis.	No.	x	xxx	xx	Secondary syphilis. Wassermann positive.
J. S.—24	Chronic prostatitis.	No.	x	—	d	Prostatic juice contains many pus-cells and many dead spermatozoa.
G. P.—37	Cyst at verumont.		d	—	—	Findings for gonorrhea negative.
J. G.—22	Left sided varicocele.	No.	x	—	—	Negative findings for gonorrhea. No history of gonorrhea.
J. B.—30	Chronic prostatitis.	No.	xx	—	d	
A. S.—30	Chronic prostatitis.	No.	d	xx	xx	
A. G.—39	Stricture in ant. urethra.	No.	d	—	—	
A. B.—24	Sexual neurasthenia.	No.	—	—	d	Gonorrhea one year ago. Negative findings for gonorrhea.
C. W.—60	Sexual neurasthenia.	No.	—	x	—	Admits two previous attacks of gonorrhea. Negative findings for gonorrhea.
C. B.—36	Neurasthenia. Pain in left kidney region.	No.	x	—	x	Never had gonorrhea. Negative findings for gonorrhea. Married. Wife and children healthy.
W. S.—69	Prostatic hypertrophy.	No.	x	x	—	Suprapubic prostatectomy. Admits attack of gonorrhea over 40 years ago. Married, healthy children. Negative findings for gonorrhea.
J. B.—76	Cancer of bladder.	No.	—	xxx	xx	Had gonorrhea in 1881 resulting in stricture. Negative findings for gonorrhea.
A. G.—32	Spinal syphilis (Tabes).	No.	d	xx	—	Never had gonorrhea. Wife healthy.
Mrs. M. B.—25	Muco-purulent discharge from vagina and cervix.	No.	—	xxx	x	Examination requested by patient claiming to have contracted acute gonorrhea from her.
H. H.—66	Prostatic hypertrophy.	No.	x	xxx	—	No findings of gonorrhea. No history of gonorrhea.
R. F.—23	Secondary syphilis.	No.	—	—	—	No history of gonorrhea. No findings.
Mrs. W. Z.—29	Bilateral parametritis.	No.	x	xx	—	Slight vaginal discharge. Two children healthy. Husband treating for gonorrhea.
L. S.—29	Chronic prostatitis.	No.	—	xxx	—	Was treated 5 years ago for prostatic gonorrhea. Married. Wife healthy; two healthy children.
Mrs. L. S.—24	Retroflexio uteri.	No.	x	x	—	Wife of preceding case. No findings for gonorrhea.
R. S.—30	Secondary syphilis.	No.	—	—	xx	A few pus cells in prostatic juice, otherwise no findings for gonorrhea.
A. S.—45	Chronic prostatitis. Secondary syphilis.	No.	xx	x	x	Gonorrhea 5 years ago. Ejaculatio praecox.
Mrs. A. S.—34	Vulvo-vaginitis.	No.	d	—	—	Wife of previous case. Slight mucous vaginal discharge.
L. S.—40	Polypi at int. sphincter.	No.	—	x	—	Married. Wife and 2 children healthy. Gonorrhea 15 years ago. No findings.
W. B.—27	Acute gon. prostatitis and seminal vesiculitis.	Yes.	—	—	x	Admits several previous gonorrheal attacks, present condition 6 weeks' standing.
J. V.—29	Acute ant. gon. urethritis.	Yes.	xx	—	x	Never had gonorrhea before. Case of 1 day's standing.
Mrs. F. H.—52	Left sided parametritis.	No.	—	xx	x	Salpingectomy 25 years ago.
W. C. S.—30	Chronic prostatitis.	No.	—	—	—	Had several gonorrheal infections. Married; wife no symptoms.
V. M.—34	Chronic prostatitis and colliculitis.	No.	x	—	—	No history of gonorrhea.
J. B.—69	Carcinoma of prostate.	No.	x	xxx	—	Prostatectomy. Negative findings for gonorrhea.
M. A.—61	Prostatic hypertrophy.	No.	x	xx	—	Had gonorrhea 40 years ago. Negative findings for gonorrhea.
D. W. H.—78	Acute ant. gon. urethritis.	Yes.	—	xxx	xx	Acute retention due to enlarged prostate. Gonorrhea 3 months old.
W. R.—32	Chronic prostatitis.	No.	x	xx	—	Sexual neurasthenia.
G. K.—33	Colliculitis. Sexual neurasthenia.	No.	—	xx	—	Patient had several gonorrheal infections since 1912.
S. Boro—29	Secondary syphilis.	No.	x	—	—	Negative findings for gonorrhea.
A. D.—40	Ant. subacute gon. urethritis.	Yes.	—	xxx	—	Gonorrhea 6 weeks' standing. Several gonorrheal infections during last 7 years.
O. L.—40	Colliculitis. Sexual neurasthenia.	No.	—	x	x	Negative findings for gonorrhea. Had gonorrhea 3 months ago.

d stands for "doubtful."

Name and Age.	Diagnosis	Gon.?	Compl. fix. tests. H.	Pac.	G. H.	Remarks.
C. S. P.—28	Chronic prostatitis.	No.	—	xxx	—	Sexual weakness.
L. R.—38	Chronic prostatitis colliculitis.	No.	—	—	—	Had gonorrhea 7 years ago.
A. O.—25	Lumbago. Neurasthenia.	No.	x	xxx	—	Negative findings for gonorrhea.
H. B.—21	Subacute ant. gon. urethritis.	Yes.	xxx	xxx	—	Secondary syphilis. Wassermann xxx.
Mrs. W. C.—33	Squamous eczema.	No.	x	—	x	No history of gonorrhea. Married; healthy children.
C. P.—28	Chronic prostatitis.	No.	xx	xxx	—	Sexual neurasthenia.
O. H.—27	Chronic prostatitis.	No.	x	xx	—	Sexual neurasthenia.
J. E.—51	Chronic prostatitis.	No.	x	—	—	Had several gonorrheal infections previously.
F. F.—28	Balano posthitis.	No.	—	—	x	Circumcision. Negative findings for gonorrhea.
W. E. P.—32	Chronic prostatitis and colliculitis.	No.	—	—	x	Cerebro-spinal syphilis. Wassermann xxxx.
P. Y.—25	Chronic prostatitis.	No.	x	—	—	
J. S.—24	Chronic prostatitis.	No.	—	xx	x	
F. W.—51	Cardio-renal hypertension.	No.	x	—	d	Never had gonorrhea. Prostatic juice normal.
F. W. R.—27	Acute gonorrhea since 3 days.	Yes.	x	—	—	
de W.—65	Spinal syphilis.	No.	d	—	—	
E. L.—63	Chronic myocarditis.	No.	—	—	—	
S. S.—25	Gonorrhea about 6 weeks	Yes.	d	—	d	
M. D. J.—35	Chronic prostatitis.	No.	—	—	d	Sexual neurasthenia.
A. R.—33	Sexual neurasthenia.	No.	—	—	—	
A. A.—25	Sexual neurasthenia.	No.	d	—	—	
Boyd—39	Chronic prostatitis stricture of anterior urethra.	No.	d	—	x	Sexual weakness.
P. L.—38	Secondary syphilis. Chronic prostatitis.	No.	xx	—	—	
F. L.—35	Periurethral abcess gonorrheal prostatitis.	Yes.	d	—	x	Gonorrhea of 2 months' standing.
F. A.—18	Chronic prostatitis.	No.	x	—	—	
M. B.—26	Subacute posterior urethritis. Prostatic abcess.	Yes.	x	xxx	d	First attack 2 months' duration.
C. L.—65	Syphilitic cavernitis.		—	x	—	Prostatic juice normal. Wassermann xx.
A. B.—24	Chronic prostatitis.	Yes.	—	—	—	
J. S.—38	Sexual neurasthenia.	No.	x	—	—	Chancre 10 years ago.
A. S.—26	Chronic prostatitis.	No.	x	—	—	Sexual neurasthenia.
H. M.—23	Chronic prostatitis and spermato cystitis.	No.	x	xxx	xx	
J. E. M.—46	Chronic prostatitis.	No.	x	xxx	x	
R. D. G.—46	Chronic prostatitis.	No.	—	—	—	Gonorrhea 15 years ago.
G. S. S.—24	Chronic prostatitis.	No.	x	—	—	
J. H.—25	Chronic prostatitis and vesiculitis.	No.	xx	xxx	x	
N. G.—28	Chronic prostatitis.	No.	x	xxx	—	Sexual neurasthenia.
J. M. W.—25	Chronic prostatitis and seminal vesiculitis.	Yes.	x	x	—	Gonorrhea for last 9 months.
E. B.—36	Aoxaluria neurasthenia.	No.	—	xx	—	Never had gonorrhea. No findings.
W. H. H.—52	Chronic prostatitis.	Yes.	xx	—	xxx	Gonorrhea 14 years ago. Stricture and epididymitis 5 years ago.
Mrs. W. S.—34	Chronic nephritis.	No.	x	x	—	No findings for gonorrhea. Three healthy children. No findings for gonorrhea in husband.
H. S. J.—29	Secondary syphilis.	No.	—	—	—	Admits two attacks of gonorrhea 10 and 7 years ago. Wife pregnant 3 months. Negative findings for gonorrhea.
L. B.—51	Neurasthenia.	No.	—	xxx	—	Married. Wife and son healthy. No findings.
A. M.—16	Subacute ant. urethritis.	Yes.	xx	—	—	Gonorrhea since last 5 months.
Mrs. P. O.—27	Chronic pelvic peritonitis.	No.	—	x	—	Vaginal discharge since last 2 years.

d stands for "doubtful."

Book Reviews

The Surgical Clinics of Chicago, Volume I, Number VII (December 1917). Index Number. Octavo 245 pages, 89 illustrations. Philadelphia and London: W. B. Saunders Company; published bi-monthly. Price per year: Paper, $10.00; cloth, $14.00.

Contents.

Dean Lewis: Separation of lower epiphysis of femur with anterior displacement and T-fractures. Myositis ossificans developing in clean incised abdominal wound. Blastomycosis and sporotrichosis. H. L. Kretschmer: Tuberculosis of kidney. L. E. Schmidt: Technic of prostatectomy. A. J. Ochsner: Actinomycosis. Carcinoma of rectum. C. B. Davis: Cancer of rectum. A. D. Bevan: Carcinoma of rectum X-ray burn of anal region. Suprapubic prostatectomy. C. H. Davis: Clinical talk on anesthesia in gynecology and obstetrics. F. S. Cary: Stubborn cystitis. C. Beck: Temporary enterostomy. F. A. Besley: Fractures. P. H. Kreuscher: Hypertrophic villous synovitis of knee-joint. F. C. Dyas: Treatment carcinoma of tongue with radium. Old fracture of patella. D. N. Eisendrath: Gunshot wound of femur. K. Speed: Right upper quadrant appendicitis.

The Medical Clinics of North America. Volume I Number III (The New York Number, November 1917). Octavo of 346 ages, 37 illustrations. Philadelphia and London: W. B. Saunders Company, published bi-monthly. Price per year: Paper, $10.00; cloth, $14.00.

Contents.

W. T. Longcope: Acute tuberculosis. Graham Lusk: Calories in common life. M. Einhorn: Diet in diseases of kidneys. C. G. Kerley: Apparent and real appetite defects in young. Warren Coleman: Typhoid diet. R. I. Cole: Lobar pneumonia. A. E. Cohn: Clinical pharmacology of digitalis. E. Libman: Affections of valves of heart. Harlow Brooks: Combined chlorin gas and trinitrotoluene poisoning. A. F. Chace: Diet in interstitial nephritis. Wm. R. Williams: Effusion in pleural, pericardial and peritoneal cavities with artificial pneumothorax. H. F. Swift: Rheumatic fever. W. W. Palmer: Acidosis; diabetes mellitus and chronic nephritis with severe acidosis. W. A. Bastedo: Mucous colitis. L. G. Cole: Ileocecal incompetency. O. M. Schloss: Intestinal intoxication and acidosis in infant. A. F. Hess: Vaginitis (cervicitis) in infants. R. A. Cooke: Protein sensitization in human with special reference to bronchial asthma and hay-fever. W. L. Niles: Meningitis. A. L. Holland: Fluoroscopic method of diagnosis in digestive disease. H. R. Geyelin: Diabetes. J. J. King: Systemic conditions as the result of tonsillar infections.

Elements of Science of Nutrition. By Graham Lusk. 3rd Edition, Reset. Philadelphia: W. B. Saunders Co. 1917.

In the ever growing mass of detail which constitutes the basis of modern scientific instruction, the department of metabolism, more perhaps than any other, is one where the average practitioner finds it most difficult to search out the wheat from the chaff and formulate a general theory that he can usefully employ in his daily routine.

We have monographs of individual experimentation, and we have text-book articles. The first give us too much and that often with bias, the latter are too often merely summaries of supposed conclusions without an understanding of the ways by which they have been obtained. Some ten years ago, Dr. Graham Lusk published his Elements of the Science of Nutrition, and the modest volume he then gave the profession has been one of the most useful of its time. Scarcely a month has passed, during which I have not had occasion to recommend it to some of my students or colleagues. It had, and the new edition has, a happy faculty of deducing the final conclusions from a picked group of experimental data, the detailed nature of which is presented in simple language to the reader. Now there appears the third edition, in which the same method is pursued and which embodies the enormous extension of our knowledge during the last ten years. Of necessity this has more than doubled the size of the book, and proportionately added to its value. It is a work that no earnest student or practitioner of internal medicine can afford to have absent from his shelves. H. D'A. P.

Practical Treatment, Volume IV. By 76 eminent specialists. Edited by John H. Musser Jr., M. D., Associate in Medicine, University of Pennsylvania; and Thomas C. Kelly, M. D., Instructor in University of Pennsylvania. Desk Index to the complete set of four volumes sent with this volume. Octavo, 1000 pages. Illustrated. Philadelphia and London: W. B. Saunders Company. 1917. Cloth, $7.00 net; Half Morocco, $8.50 net.

The fourth volume of this series has been brought out in order to give the various original contributors opportunity to bring the discussion of their subjects "up to the minute." Several contributors, unable to undertake revisions of their articles, have been replaced by others who have entirely rewritten the chapters involved.

The book as a whole is an excellent one. There are several chapters which could be read with profit by every medical man. We would call especial attention to Rowntree's chapters on nephritis, Dochez's articles on specific therapy of pneumococcus infection. Goodale on hay fever and hay asthma, and Sailer and Goldthwait on the treatment of visceroptosis and allied disorders. R. B.

Principles and Practice of Dermatology. By Wm. Allen Pusey. 3rd edition. New York: Appleton. 1917.

Pusey's new book should well fill the desire of the author. It is up to date on the subject, is delightfully pleasing in the way it is written, and it is not too long. All of the descriptions are clear and they seem to express much of the author's own impressions which, unfortunately, is often not true in medical textbooks. The section on syphilis is more exhaustive than is usually the case in textbooks on dermatology; this alone should make it valuable to any student or practitioner, whether general or of a specialty. The article on pellagra is excellent and should be of exceptional interest.

The plates and photographs have been well chosen from numerous excellent collections, including the large collection of the author. They should be very helpful to the diagnostician, as they are such typical portrayals of their respective diseases.

To read the book critically would be worth while as there is so little in it to comment upon adversely. As a textbook it would seem to be one of the best. The reviewer can recommend it highly. G. D. C.

Physical Diagnosis. By W. D. Rose. St. Louis: Mosby. 1917.

Doctor Rose is to be complimented on having written an admirable compend to be used as an adjunct to a good course on physical diagnosis or as a very brief reference for an extremely busy practitioner. The first part dealing with the thorax and, to a much less degree, the second part, dealing with the abdomen, are treated with a fair amount of thoroughness. The rest of the work, comprising the head, neck and extremities, is so meagrely

handled that it may as well be disregarded. This work, like so many others that are needlessly boosting the high cost of paper, ink, etc., is of that huge number of American text-books that develop habits of superficiality in the readers thereof. If the writer had confined himself to the thorax alone and amplified the really good presentation of this part of the subject, he would have contributed to the literature a volume that would find a field of usefulness as a students' text or even a reference work. The chief objection is the lack of both comprehensive and positive information on any of the subjects included in the book. G. H. T.

Obstetrics. By J. W. Williams. 4th Edition. New York: Appleton. 1917.

There is a very pleasant feeling of anticipation in settling down for a review of the last edition of this work,—the pleasure of recognizing development and ripening wisdom in a friend of many years. There is still a sympathetic understanding of the needs of the student, and for them no fundamental detail has been slighted, while for the practitioner there is a practical review of obstetrical study to date. Some details are particularly interesting, and we note especially the discussion of the toxemias, the marshaling anew of phases of dystocia, the broadening of the indication for therapeutic abortion in maternal tuberculosis. Also it is a comfort to have the author sound an unmistakable warning regarding meddlesome interference in labor, and an urgent appeal for conservative assistance. It is a good book to have beside one. E. K.

Sanitation for Medical Officers. By Edw. B. Vedder. Illustrated. Philadelphia: Lea & Febiger. 1917. Price $1.50.

This book is No. 1 of a series of medical war manuals authorized by the Secretary of War and under the supervision of the Surgeon General and the Council of National Defense. Sections are devoted to sanitation in camp, on the march, in the trenches and battlefield. It considers in an efficient manner the insects concerned in the transmission of disease and gives as valuable notes on transmissible disease as can be found in any books,—and in more convenient form. An invaluable book for civilian doctors as well as those in the military service. J. H. C.

Technic of Irrigation Treatment of Wounds by Carrel Method. By J. Dumas and Anne Carrel. New York: Paul B. Hoeber. 1917. Price, $1.25.

This little book gives a simple exposition of the details of the Carrel treatment of wounds, together with information on the staining of slides, counting of bacteria in wound secretions, and preparation and titration of the Carrel-Dakin solution. It is intended primarily as a nurse's handbook, but may be read with profit by surgeons and also by hospital superintendents and pharmacists working in institutions that use the Carrel method. L. E.

Diseases of Children: A Manual for Students and Practitioners. By George M. Tuttle and Phelps G. Hurford. Third Edition, Thoroughly Revised and Enlarged. Philadelphia and New York: Lea & Febiger. 1917.

This excellent manual is now in its third edition. Many new ideas and new clinical facts have been incorporated, making this book a very complete survey of the field of pediatrics. Especially to be commended are those chapters dealing with the development of the infant and the diseases of infancy and early childhood. The infectious diseases are presented in a clear and practical manner. Students of medicine will find this textbook a most valuable addition to their working library. R. L. A.

An Intermediate Text-Book of Physiological Chemistry With Experiments. By C. J. V. Pettibone. St. Louis, Mosby. 1917.

A clear, concise, little laboratory manual that should serve admirably to carry the student over from the elements of organic chemistry as given in the university into the realm of biochemistry. Step by step, the reader is carried along the path of logical deduction with a minimum of theorizing and a maximum of solid, proven facts. The student who follows this text-book faithfully will be well started to grasp the more complicated and more theoretical studies in the chemistry of living things. For the teacher conducting a course in physiological chemistry this manual will be a most excellent guide as to the order of instruction and for the students a great help in correlating lecture, experiment and text. G. H. T.

Handbook of Antiseptics. By H. D. Dakin and E. K. Dunham. New York: Macmillan. 1917. Price, $1.25.

This little handbook of 126 pages—it might be called a pocket-book—shows the hand of a master. It is of beautiful conciseness and simplicity,—always the mark of the best English scientists. It is full of useful information. The general introductory chapter on the laws of disinfection, the influence of media on disinfection and the choice of antiseptics especially, should be studied by everyone to whom modern antisepsis and the Carrel-Dakin methods are of interest. The antiseptics of the chlorine group—hypochlorous acid, chloramine T., etc., receive major consideration. The book contains contradictions. On pages 21-22 the combination of bleaching powder and boric acid (eusol) is said to be neutral or faintly acid; on the very next page we are told that it is alkaline to litmus. Nevertheless, military surgeons cannot afford not to study it. L. E.

Physical Exercises for Invalids and Convalescents. By Edward H. Ochsner. St. Louis: C. V. Mosby Co. 1917.

As the author says in his well-written introduction, he personally felt the need of an illustrated manual which the patient could use at home instead of typewritten slips. The forty illustrations are all good, but very few patients are willing to buy a book of this kind, much less to give the time to go through the above list. A physician can find the same exercises in any book on the subject and choose those suited to the needs of his patient. N. S.

State Society

IMPORTANT NOTICE—INDEMNITY DEFENSE FUND.

Notes are now becoming due.

Do not let your membership lapse.

Each member will be informed ten days in advance of the due date of his note.

Medical Defense Rules, Section 3: "Dues must be paid to the Secretary of the County Medical Society to which each member belongs prior to the end of February of each year. Any member whose dues are not paid prior to March 1st and whose name is not reported as having paid his dues by the Secretary of his County Medical Society is dropped from the list of members in good standing as of January 1st of such year, and such member is deprived of Medical Defense afforded by the State Society for the period from January 1st of such year to the date when his assessment is received by the State Society. Members whose assessments

are not received on or before February 15th of each year will be notified by letter from the Secretary of the State Society of such fact."

STATE DUES FOR 1918.

In order to defray the increased expenses of the Society due to its wider activities, and in response to the recommendations of the Council, the House of Delegates fixed the assessment for 1918 at $7.00, being an increase of $1.00 over the dues of last year.

COUNTY SECRETARIES TAKE NOTICE!

Kindly check the name of your President and Secretary appearing in the list of Presidents and Secretaries of the County Medical Societies on page xliv of this issue. Any corrections should be received by this office not later than the 10th of February to appear in the March number.

The initial assessment for the organization of the Indemnity Defense Fund was fixed at $30.00, one-half to be paid in cash upon subscription, and the balance by note due one year thereafter.

In fairness to those who joined the Fund promptly, it was necessary to fix a limit upon this method of payment, and therefore DECEMBER 31st, 1917, was settled upon as the LAST MATURITY DATE FOR NOTES.

Commencing January 1st, 1918, a member joining the Indemnity Defense Fund will pay the full initial assessment of $30.00.

THE FOLLOWING RESOLUTIONS WERE ADOPTED BY THE COUNCIL OF THE MEDICAL SOCIETY OF THE STATE OF CALIFORNIA AT ITS MEETING HELD NOVEMBER 24, 1917, IN LOS ANGELES:

RESOLUTION I.

Remission of dues of members while in the federal service during the war.

RESOLVED: That the Council of the Medical Society of the State of California recommends to each component County Society that the constitution and by-laws of each component County Society be amended forthwith to provide that any member thereof now in the service of the United States by reason of the war with Germany and Austria, or who shall hereafter join such service, and who is thereby absent from his practice in his own community shall be exempted from all dues of his component county society during the period of such service;

Be it further resolved, that each member thus exempted shall not be exempted from the payment of his dues to the State Society, but shall transmit such dues through his County Secretary, payable to the Secretary of the State Society.

RESOLUTION II.

Discipline of members for unethical conduct.

WHEREAS, the component County Societies have from time to time applied to the Council for advice and instructions in the matter of discipline of members;

AND WHEREAS, the Constitution and By-Laws of the Society upon the subject are as follows:

Constitution, Article III.

Section 1. This Society shall consist of Members, Delegates and Guests.

Section 2. Members—The Members of the Society shall be the members of the component county medical societies.

By-Laws, Article I. Membership.

Section 1. All members of affiliated County Medical Societies shall, by virtue of such membership, be members of this Society, when duly reported by the President and Secretary of the County Medical Society. The name of the physician on the properly certified roster of members of a component society, which has paid its annual assessment, shall be prima facie evidence of membership in this Society.

Section 2. Any person who is under sentence of suspension or expulsion from a component society, or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take part in any of its proceedings, nor receive its publications, until he has been relieved of such disability. Any person who may be suspended for non-payment of dues is to be construed as coming within the provisions of this section.

Section 3. It shall be the duty of the Secretary of each component society to furnish the Secretary of this Society, before the first day of February of each year, a list of all members in good standing (with addresses) on the first day of January of each year.

By-Laws, Article VIII. County Societies.

Section 5. Each County Society shall judge of the qualifications of its own members, but, as such societies are the only portals of this Society and to the American Medical Association, every reputable and legally registered physician who does not practice or claim to practice, nor lend his support to, any exclusive system of medicine, shall be eligible to membership. Before a charter is issued to any County Society, full and ample notice and opportunity shall be given to every physician in the county to become a member.

Section 6. Any physician who may feel aggrieved by the action of the society of this county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, and if the decision of the Council be questioned, an appeal shall be taken to the House of Delegates, whose decision in any case shall be final.

Section 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts; but in case of every appeal, both as a Board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

NOW, THEREFORE, BE IT RESOLVED: That the Council recommends to the component County Societies the following procedure for discipline of members in such cases of unethical conduct or practice as the respective County Societies may deem proper and suitable:

1. Private warning by the officers of the component County Society.

2. Reprimand by the President of a component County Society during open session or meeting.

3. Suspension for varying period, the duration of which to be determined by the component County Society or its constituted authorities.

4. Expulsion.

In cases 2, 3 and 4, due notice must be given to the member in question with full opportunity for him to be heard thereon.

Any of the foregoing disciplinary measures may be printed in the official publications of either the component County Societies or the State units.

County Societies

ALAMEDA COUNTY.

Annual Meeting.

The annual meeting of the Alameda County Medical Association was held Monday evening, December 17, 1917.

The meeting was called to order by the president, Dr. R. T. Stratton, and the following program was presented:

1. Spasmodic Disturbances of the Respiratory Tract With Special Reference to Hay Fever. Illustrated by Lantern Slides. Dr. Grant Selfridge, San Francisco.

2. Pelvic Anatomy of the Female. Illustrated by Lantern Slides in Natural Colors. Dr. David Hadden, Oakland.

Dr. T. C. McCleave exhibited slides of a case of tuberculosis of the upper dorsal spine with extreme deformity occurring in a few weeks from the time the trouble was first observed.

The following officers were elected to serve for the ensuing year: President, Dr. W. O. Smith; vice-president, Dr. W. H. Strietmann; secretary-treasurer, Dr. Elmer E. Brinckerhoff; councillors, Drs. F. H. Bowles, W. H. Irwin, T. C. McCleave, C. L. McVey, Pauline S. Nusbaumer and Dudley Smith; delegates to the State Meeting, Drs. A. S. Kelly, G. G. Reinle, A. M. Smith and R. T. Stratton.

The reports of the secretary-treasurer for the ear were read, after which the new officers were installed.

It was with profound sorrow that the members of the Alameda County Medical Association learned of the death of Mrs. F. M. Loomis, wife of Dr. Loomis, which occurred December 12th, last. Though Mrs. Loomis had lived in Oakland but a short time, she had endeared herself to a large circle of friends, who mourn her loss. To Dr. Loomis and the two young daughters, the Association extends sincere sympathy.

Dr. Alvin Powell, formerly on the staff of the University of California Infirmary, who was made Captain of the University Ambulance Unit, which was sent to Allentown, Pennsylvania, was last week promoted to a Majority.

Dr. A. M. Meads, of the University of California Infirmary, has been promoted to a Captaincy and it is rumored that he will soon leave Allentown to become urologist at one of the large New York base hospitals.

The Civil Service Board of the City of Oakland will hold an examination on February 25th, 1918, for the position of Director of Laboratories. The examination to be in subjects pertaining to Bacteriology and Chemistry. The salary will be from $150 to $175 per month.

The death rate in the city of Oakland, according to the Census Bureau, for the week ending December 15, 1917, was 6.1 per 1,000, which is the lowest in any city in the United States of over 100,000 population.

The following men were appointed by Adjutant-General A. J. Borree to serve on the Medical Board for doubtful draft cases in District No. 6 (comprising Stanislaus, Alameda, Contra Costa, Solano, Napa and Lake counties): A. W. Hoisholt, Napa; W. H. Strietmann, W. A. Clark, Alexander Galbraith, T. J. Clark, R. A. Glenn, P. S. Ansell and W. L. Hughes, Oakland. The Board Station to be at the Merritt Hospital, Oakland.

On the recommendation of the County Institution's Commission, Dr. A. M. Smith was appointed by the Board of Supervisors as temporary superintendent of the County Infirmary.

The dedication of the Arroyo Sanitarium, Alameda county's new tuberculosis hospital at Livermore, California, took place with appropriate ceremonies, at 2 o'clock, January 12, 1918.

The Health Department of the City of Alameda now has a Health Visitor to perform the usual duties of a Health and Municipal Nurse.

The resignation of Dr. C. A. Mackey, resident physician at the receiving hospital, Oakland, was accepted to take effect January 1st. Dr. Lee E. Smith was appointed in his place.

Dr. H. A. Wychoff was appointed resident physician at the Arroyo Sanitarium at Livermore.

Dr. William J. Jackson of Oakland, surgeon on the S. S. Tjikenbang has been commissioned an officer in the medical corps of the United States army and will return from China the first of the year to take up his duties. He is the brother of Doctor F. F. Jackson, Commissioner of Public Health and Safety of Oakland.

FRESNO COUNTY.

Dr. R. M. Jones, formerly in the Rowell Building, here, left for the M. O. T. C. at Ft. Riley, the morning of December 16th, last.

Dr. W. I. Adams, Forsyth Building, has been commissioned as Captain, M. R. C. U. S. A., and is daily expecting orders to join the colors.

The Board of Governors of the County Society have listed all doctors in the county who are eligible to examine the "conscripts" of the draft law, and are detailing them in turn, for duty as examiners. This scheme prevents abuse of the good-natured doctor and reaches the slacker members of the profession. It is working fine so far and all seem pleased with the plan.

Checks are coming in rapidly, which is very encouraging, since we must soon remit the Parent Society the tidy sum of $616, to keep us all in good grace with our "Alma Pater."

At the last moment comes word of the sudden illness of Chief Vollmer of Berkeley's police department, and a consequent cancellation of his engagement for January 8th. Prof. F. F. Nalder of the University of California has stepped into the breach, however, and promises to do his best to entertain us with a talk on "Crime and Its Causes."

To Members of Fresno County Society.

At its November meeting, the Fresno County Medical Society passed a resolution making the annual dues payable as follows:

The first Seven Dollars payable not later than January 31st, and the remaining Five Dollars not later than July 31st of each year.

Your County Society is compelled to remit $7 to the State Society at the beginning of the year, to maintain you in good standing, and protect you from fraudulent malpractice suits.

The practice of remitting for members regardless of their standing with the County Society is no longer permitted.

The Board of Governors deem this notice ample, and no further warning will be given.

SO REMEMBER TO MAIL YOUR CHECK TO THE SECRETARY THIS MONTH.

As the science of medicine is so extensive and the life of man too short to attain the whole, physicians of experience must be separated from the foolish, they must "purify themselves," make themselves white and be refined" (Daniel xii, 10), for by their constant study of literature and ceaseless investigation they distinguish themselves from the rest of mankind.

The physician does not bring about the cure, but he prepares and smoothes the way for nature; nature is the actual healer.

The need of the physician is twofold, preserving health and curing disease; and the demand for the former is greater than for the latter; for it is better for man that he avoid becoming ill than that he become ill and be cured.—Isaac Judaeus, 830-892 A. D.

LOS ANGELES COUNTY.

OUR HONOR ROLL

MEMBERS CALLED TO THE COLORS.

I. Roll of Members in Active Service.

Alexander, Chas. B.
Alter, Samuel M.
Anderson, Oscar
Bay, Samuel G.
Blake, W. P.
Blanchard, W. O.
Boller, Phil.
Bonoff, Carl
Bowman, W. B.
Brem, Walter
Brooks, S. D.
Burk, E. E.
Byrnes, R. L.
Cahen, Caesar G.
Carter, R. A.
Chamberlin, H. H.
Charlton, A. T.
Chase, Frank H.
Cloud, M. M.
Cochran, Guy
Condit, J. D.
Conroy, C. P.
Crispen, Egerton
Crossan, J. W.
Daniel, W. H.
Decker, C. W.
Dickson, A. R.
Dodsworth, R. M.
Dwire, Francis B.
Evans, J. G.
Fahy, John Eugene
Fairchild, F. D.
Ferbert, John C.
Fulton, Dudley
Irwin, J. C.
Josephs, Louis
Kellogg, P. S.
Kerr, A. N.
Keyes, Henry
Kyle, John J.
Leonard, Walter
Lockwood, Chas. D.
Lynch, J. G.
Macleish, A. C.
Marxmiller, H. G.
McClish, C. L.
Miller, Frank W.
Moore, E. C.
Moore, Ross
Moore, Wm. Day
Mordoff, C. E.
Morrison, Wayland
Morton, Lewis
Murrietta, A. J.
Olds, W. H.
Orbison, T. J.
O'Reilly, Thos. W.
Purviance, W. E.
Reed, W. A.
Remington, Lewis D.
Richardson, W. W.
Roen, Paul
Shippey, R. H.
Shulman, Leon
Sisson, C. E.
Smith, Rea
Stookey, Byron
Tebbitt, R. L.
Tredway, E. E.
Waller, George P.
Warmer, C. A.
Wiser, F. C.

II. Members Holding Commissions—Net Yet Called to the Colors.

Alden, Eliot
Anderson, C. W.
Beach, Everett C.
Bowen, Fred
Browning, C. C.
Butler, O. W.
Coller, F. A.
Dieterle, R.
Francis, W. V. C.
Fielding, G. A.
Frost, L. C.
Hart, Lasher
Hill, R. B.
Hunter, G. G.
Jeffs, Milton D. W.
Jesberg, Simon
Johnson, C. A.
Koons, H. H.
Luckie, J. B.
Mace, L. R.
Mattison, F. C. E.
Pomeroy, J. L.
Rand, C. W.
Ray, F. S.
Roberts, W. H.
Shepard, C. A.
Sherk, H. H.
Soiland, Albert
Tholen, E. F.
Van Kaathoven, J. J. A.
Whiting, Sandford
Wiley, E. H.
Wilson, H. P.
Woodward, Frank A.

Joint Medical Meeting.

The Southern California Medical Society had a joint session with the Los Angeles County Medical Association December 5, 1917. Dr. Orbison, a vice-president of the former, presided, commending the fellow feeling of the two Societies.

Dr. A. S. Granger spoke of the treatment of the diabetics in dispensaries; that the ambulatory cases should be instructed to make their own sugar and diacetic acid tests; should weigh their food and determine their sugar tolerance; that there should be more individualization in these cases.

Dr. R. S. Cummings reported one hundred cases of blood nitrogen in nephritis and spoke of the phthalein decrease in relation to the nitrogen increase and that the lessened output of phthalein meant death.

Dr. Molony spoke on the Medical Practice Act of California, saying that the annual tax and registration fee of two dollars to the Secretary-Treasurer of the Board of Medical Examiners, is to be partly spent for the prosecution of quacks.

Dr. Geo. H. Kress, in an animated talk, told of the necessity of action on the part of the profession, as the vote on the Enabling Act to amend the Constitution will take place at the next State election in November. Every one was surprised to learn that Social Health Insurance will be more needed because of the war when the boys come home from the trenches.

Los Angeles County Health Office Uses Motion Picture Film for Exhibit.

A very novel method of exhibiting the work of the Department has recently been adopted by the County Health Officer, Dr. J. L. Pomeroy, of Los Angeles county. In order to reach a large number of people with whom the Health Office never comes in contact, Dr. Pomeroy felt that a motion picture film was the best method to accomplish this purpose. Furthermore, the average citizen does not know very much about the mechanism or inner workings of the Health Department. As a result of this much misunderstanding and actual lack of co-operation results. The motion picture film has not only the advantage of reaching large numbers of people, but also the cost of transferring this exhibit is relatively so slight that this in itself comprises a great advantage.

The title of the film now in use in the County Health Office for exhibit purposes is "What the People Should Know." It portrays each step in the protection of the public against the spread of diphtheria, showing as nearly accurately as possible how employees of the Department carry on their work, and the immense amount of detail work which must be done on each case. All scenes were actually enacted by the members of the Department and their families.

The first scene shows the Health Officer in the central office studying the map of the county, with a record of the contagious cases before him. Later a case of diphtheria is reported, and in the succeeding scenes it comes to light that a neglected case of sore throat was in attendance at the public school and that the disease has been spread through the swapping of apples, through the pollution of the drinking fountain, and through the breaking of quarantine by a careless family; how the cultures are taken, examined in the laboratory, with the resulting administration of antitoxin is given in very interesting scenes. Then the careful work of examination of the school children, inspection of the dairy, the collection of infected books from the library, and all the many things which are done by the Health Department in compliance with the state regulations are portrayed with as much action as possible.

Throughout these scenes an attempt is made to convey to the public the great need of co-operation and good feeling between the citizen and the Health Department, and that most of the work carried out can only be successful if this co-operation is sincere and definite. A quarantine may easily be broken and the results of the work of an entire department be greatly hampered through a little carelessness.

This also shows that the work of the County Health Department covered a territory practically equal that of the State of Connecticut, being nearly four thousand square miles; that besides the rural territory, there were thirty-nine incorporated cities, a large proportion of the population of which daily was in contact with the rural population.

In the closing scenes of the film a special request is made for the co-operation of the people that a better understanding and greater efficiency be attained in this work.

Los Angeles County Hospital.

Los Angeles County Hospital service flag has just been received. It contains 27 stars. Those represented upon that flag are in all parts of the

United States. Some in France. All enjoying their work for Uncle Sam.

The Navy Base hospital unit of Los Angeles, in which there is a large number of doctors both from visiting and house staff, as well as nurses from the county hospital, left some time ago for duty at the front. Many of the doctors and nurses left behind are now getting anxious to be off and into the struggle.

With the beginning of the year some of the house staff at the hospital leave; all services change as new men come in. At present there are thirty internes; the service is eighteen months so ten internes leave and ten enter each six months. There is now a special service to which an interne is appointed, that of otolaryngology. It gives any interne especially interested in this line an excellent opportunity for developing skill both in diagnosis and treatment as there is constant supervision by members of the visiting staff and a large amount of clinical material.

Medical Preparedness.

The Board of Trustees of the Medical Society of the State of California, and the Northern and Southern California sections of the medical division of the Council of National Defense, had an important conference on medical preparedness for the war, November 24th, in the Los Angeles Athletic Club as guests of the "Uplifters."

Drs. Harry M. Sherman and Saxton Pope of San Francisco were the chairman and secretary of the Northern Division, and Dr. Henry Sherk of Pasadena and Dr. Geo. H. Kress of Los Angeles with the same offices for the Southern Division.

Dr. Clarence Moore of the Southern Section, made a report on the National Conference of the State Medical Division on National Defense just closed at Chicago.

Dr. Henry H. Sherk has received a commission from Washington to supervise the examination work in connection with the next selective process and will be assisted by Dr. Geo. H. Kress.

Major A. Jump is to visit California on behalf of the Surgeon-General's Office. 600 commissioned California surgeons are reported to be now with the colors.

Dr. Claire W. Murphy, Coll. Med. Univ. of So. Calif., 1891 (C.), '92, member of the L. A. Co. Med. Ass'n., died here (L. A.), Nov. 24, 1917, at the age of forty-seven.

Dr. Theo. G. Finley died Dec. 17, 1917, at the age of 41. A. M. A., Univ. of So. Calif., '08 (C.), '08.

Los Angeles Physicians to Examine Registrants.

The Selection Boards of Los Angeles County will organize the physicians of the city and county to examine National Army registrants who are placed in class 1, the first to be drawn on for the new duty.

Captain Byron P. Stookey received orders from Washington detailing him to immediate duty with American troops somewhere in the war zone. Dr. Stookey has already served with the Allies for two years at Verdun. When he returned to Los Angeles he was appointed assistant surgeon at the receiving hospital by Chief Surgeon John P. Gilmer. Recently he was at Camp Kearny, near San Diego.

County Society Meeting in January.

The Los Angeles County Medical Association met January 3rd for the first time this year of 1918. Dr. William Duffield, the new president, having charge, exchanged courtesies with last year's president, Dr. C. C. Browning, and remarked that he believed that his election was not meant so much to honor him as to have him do the work.

Dr. Browning spoke on chronic gingivitis and focal infection, the relation of tubercular trouble, of abscesses at the root of teeth, the need of the X-ray for diagnosis, and the importance of prophylaxis. The subject was illustrated by some fine stereopticon pictures made by Dr. Julio Endelman of the Dental College.

Dr. Alfred C. Reed, Editor of the California State Journal of Medicine, as a guest from San Francisco, was warmly welcomed, and as one of the speakers of the evening, dwelt on the importance of State Social Insurance. In a deliberate and effective appeal, he hoped that every colleague would be fully informed about the matter, since it may vitally affect every one, and seems certain to become a law. He spoke fully and clearly about the Journal's policy, emphasizing the fact that its chief function is to develop the State Society and the county units.

Dr. Jno. Larrabee Pomeroy, Chief of the Los Angeles County Board of Health, says that 1100 feet of a motion picture film has been completed, illustrating the work of the county board of health in diphtheria, and will be shown in the motion picture houses for the people's education in this matter. Dr. Pomeroy wrote the scenario himself and had it run off for the Society's criticism. It was appreciated by all present, and highly approved by those who spoke.

Lieut. J. G. Lynch of the Medical Reserve Corps has been promoted to a captaincy for efficient service in passing upon applicants for army service. He enlisted before the declaration of war.

Southern California U. S. Naval Station.

Senior Surgeon S. S. Williams of the United States Public Health Service, and Surgeon Warton W. Baker of the United States naval medical corps, both of Washington, recently (Dec. 20) inspected the United States naval training station at Los Angeles Harbor, and consider the same an ideal training ground for large bodies of men; that the health of the men is excellent, due to arrangement of quarters, excellent medical service, the tonic breezes of the Pacific, and the climate of Southern California. Health conditions at the naval training station of San Diego, they also found excellent.

Wanted: Deputy Health Officers.

The county civil service commission called for assistants to the county health officers, December 26, and applicants are to be examined January 30, 1918, at the Hall of Records in Los Angeles.

Residents of the state are eligible. The duties of these deputy health officers are to enforce and observe sanitary measures and maintain quarantine regulations and rules prescribed by the state board of health. Salaries range from $150 to $175 a month.

The eligible list of the county hospital staff has been greatly lowered.

F. E. Doty, secretary of the commission, will aid applicants by mail if personal calls are impossible.

For the Army Nurse Corps.

An army of 1,500,000 men needs 37,509 nurses. There were only 3,800 enrolled December 29, 1917. As an increase of nearly 1,000 per cent. is needed some of the requirements for enrolling are being waived.

Compensation for Deaths and Injuries.

The Industrial Accident Commission reported December 30, that during 1917, 657 workmen were killed in California. Medical, surgical and hospital payments amounted to $1,109,072.82, in addition for death and permanent injury cases, $2,398,232.01, were awarded, making a total in compensation and medical costs $3,507,304.83.

County Society Meeting in December.

The year's last meeting of the Los Angeles County Medical Association took place December 20, 1917. Dr. C. C. Browning presided. The scientific program was postponed because of the report of the many committees and the election of officers.

Dr. Geo. H. Kress spoke fully of the work done by the society for its members and showed that

the many county and state unit benefits consume all fees.

Result of election: President, Dr. William Duffield; vice-president, Dr. Wm. H. Kiger; secretary-treasurer, Dr. Geo. H. Kress; councillors at large, Dr. Dudley Fulton, Dr. F. C. E. Mattison, Dr. George L. Cole.

MENDOCINO COUNTY.

Report made to the Mendocino County Medical Society at its December meeting:

Membership on January 1, 1917, 17; elected to membership during the year, 4, two of whom came with cards; removed from jurisdiction (Dr. Judson Liftchild), 1; died (Dr. George A. Woelffel, Willits), 1; total membership December, 1917, 19.

Members in Federal service: Dr. R. H. Hunt, Bartlett Springs, Lake county, Lieut. Naval Reserve Corps; Dr. H. H. Wolfe, Albion, Mendocino county, Lieut. Med. Reserve Corps.

Officers for 1918: President, Dr. G. W. Stout, Ukiah; vice-president, Dr. C. L. Sweet, Elk; secretary, Dr. O. H. Beckman, Fort Bragg; delegate, Dr. O. H. Beckman; associate editor, Dr. O. H. Beckman.

MONTEREY COUNTY.

Monterey county claims the honor of being the first county in the state to utilize its proceeds from the sale of the Red Cross Christmas Seals to employ a permanent visiting nurse. Miss Cecilia Jensen, a public health nurse with wide experience in tuberculosis nursing and health supervision of school children, has been appointed to fill the position.

ORANGE COUNTY.

The plan recently adopted at a joint meeting of the County Board of Education and the County Medical Society in reference to the routine examination of school children is meeting with fair success. Every pupil is given a card and asked to take it to its family physician and have it filled out. The filling out of the card necessitates that a physical examination be made. This examination, while not complete, covers most of the points necessary in the determination of diseased conditions among school children.

The paper on "Appendicitis" read by Dr. Robertson of Santa Ana at the last meeting of the society proved to be interesting and instructive and brought out a lively discussion.

Dr. V. C. Charleston of Brea has accepted a mining position in Arizona, and leaves shortly.

A committee was appointed by President Zaiser at the last meeting of the society to procure a service flag. It is expected that it will be unfurled at the next meeting.

Dr. W. H. Wickett of Anaheim is attending eastern clinics for the month of January.

PLACER COUNTY.

The regular meeting of the Placer County Medical Society convened at Roseville on the evening of December 1, 1917.

The annual election of officers resulted as follows: President, Dr. O. C. Hyde, Lincoln; vice-president, Dr. B. Woodbridge, Roseville; secretary-treasurer, Dr. R. E. Allen, Newcastle. Drs. Ostrom of Loomis and Miner of Colfax were elected as delegates to the next State Society meeting. Dr. C. J. Durand of Colfax was elected to membership in the society and Dr. J. B. Rogers of Napa was transferred to the Napa County Society.

On motion, the dues of the society were increased to $8.50 owing to the increase of the state fee from $6.00 to $7.00.

Resolutions of sympathy were passed and ordered sent to the family of Dr. John Jones, deceased, of Grass Valley. Dr. Jones was a man of high professional attainments and was beloved by all who knew him.

Dr. J. B. Harris of Sacramento presented three cases of anterior poliomyelitis, two of whom had been operated on with very gratifying results. Dr. Harris also talked upon obstetrical surgery in a practical and interesting way.

Dr. Ostrom of Loomis presented a paper on case histories.

Those present were Drs. Peers, Woodbridge, Ostrom, Hyde, Fletcher, Miner, Durand and Allen.

SACRAMENTO COUNTY.

At the regular meeting of the Sacramento County Society for Medical Imrovement, held December 18, 1917, the following officers were elected: Board of directors for 1918—Drs. C. B. Jones, G. A. Foster, G. A. Briggs, George Spencer, W. A. Beattie. Officers for the year 1918: President, Dr. G. A. Briggs; vice-president, Dr. George Spencer; secretary-treasurer, Dr. W. A. Beattie.

SAN DIEGO COUNTY.

In order to handle the local situation a hospital for the isolation of patients afflicted with syphilis and gonorrhea is being erected near the Isolation Hospital, and will be ready to receive patients by January 1, 1918.

The San Diego profession to-day mourns the death of Dr. William D. Whitten, an internist of fine training, who died at Pottenger Sanitarium, Monrovia, December 5th.

The regular meeting of the County Medical Society was addressed by Dr. T. Coe Little on "Riggs Disease: Its Influence on Organic Nervous Diseases." The subject was clearly and forcefully presented and brought forth liberal discussion from both physicians and dentists.

The San Diego Diagnostic Group Clinic seems to be steadily broadening its sphere of contact, cases being constantly referred to it from outside states.

Dr. O. G. Wicherski has been elected by the Supervisors as county physician for 1918, vice Dr. I. D. Webster, resigned. Dr. Wicherski has been for several years doing good work as county health officer.

Dr. I. D. Webster is rapidly recovering from his recent serious illness and is able again to greet his host of friends.

The San Diego County Society held its annual banquet at the Maryland Hotel on the evening of January 8th and elected the following officers for 1918: President, Dr. James A. Jackson; vice-president, Dr. P. M. Carrington; Secretary-Treasurer, Dr. W. W. Crawford. Upwards of one hundred members of the medical profession enjoyed a delightful evening. After-dinner speaking was featured by informal talks from Lt. Mairresse, French aviator, and Dr. Arthur P. Lensman of Seattle.

In the untimely death of Dr. William D. Whitten at the age of 36 the San Diego profession has lost one of its most valued members. Dr. Whitten was one of the keenest clinicians and most enthusiastic workers in the local profession, interesting himself particularly in the active crusade against tuberculosis.

The San Diego Medical Library Association closed its third year of successful development with reports from its retiring officers and the election for 1918 of the following directors and officers: President, Dr. Thomas Coe Little; vice-president, Dr. James F. Churchill; treasurer, Dr. John C. Yates; secretary, Dr. Robert Pollock; directors, Drs. H. F. Andrews, F. R. Burnham, F. A. Burton, P. M. Carrington, James F. Churchill, James A. Jackson, J. E. Jennison, Lyell C. Kinney, H. P. Newman, Rawson J. Pickard, Thos. Coe Little and H. T. Woodward. Dr. Harry M. Sherman of San Francisco was elected to honorary membership in the Association.

Dr. Francis H. Mead and Dr. James F. Churchill

were recently elected to fill vacancies on the executive board of the staff of the San Diego Diagnostic Group Clinic.

SAN FRANCISCO COUNTY.

Proceedings of the San Francisco County Medical Society.

During the month of December, 1917, the following meetings were held:

Tuesday, December 4th—Section on Medicine.

1. Amebiasis Observed in California. Herbert Gunn.
2. Internal Secretions in the Practice of Obstetrics. Frederic M. Loomis, Oakland.
3. Opportunism in the Treatment of Epithelioma. D. W. Montgomery and George D. Culver.

Tuesday, December 11th—Annual Meeting.

The following officers were elected for 1918: President, John H. Graves; first vice-president, R. Knight Smith; second vice-president, W. W. Wymore; secretary, René Bine; librarian, Leo Eloesser.

Stanford Clinical Evening.

1. Skin Diseases in Their Relationship to Industrial Accident and Health Insurance. H. E. Alderson.
2. Traumatic Lipemia and Fat Embolism. John F. Cowan.
3. Cerebello-Pontine Angle Tumors (read by W. F. Schaller). T. G. Inman.

Tuesday, December 18th—Section on Surgery. San Francisco Polyclinic Clinical Evening.

1. Early Stages of Hydronephrosis. M. Krotoszyner.
2. Intermittent Claudication. H. Kronenberg.
3. Extra-Vesical Causes of Bladder Disturbances in Women. W. E. Stevens.
4. Local Versus General Anesthesia in Tonsillectomy. C. F. Welty.

SAN LUIS OBISPO COUNTY.

At a meeting of this society held December 29th, 1917, at the office of Dr. C. J. McGovern, San Luis Obispo, the following officers for the year 1918 were elected: Dr. A. H. Williams, president; Dr. B. Y. Miller, vice-president; Dr. G. L. Sobey, secretary-treasurer; Dr G. L. Sobey, delegate; Dr. R. A. Diesser, alternate.

SAN JOAQUIN COUNTY.

The annual business meeting of the San Joaquin County Medical Society was held at the office of the secretary Friday evening, December 28th. The following directors were elected to serve for 1918: Drs. F. P. Clark, J. D. Dameron, R. T. McGurk, B. J. Powell, L. Dozier, C. F. English, J. V. Craviotto, Margaret Smyth and D. R. Powell. Dr. Margaret Smyth was unanimously elected president, Dr. L. Dozier 1st vice-president, Dr. J. V. Craviotto 2nd vice-president, and Dr. Dewey R. Powell secretary-treasurer.

STANISLAUS COUNTY.

The annual meeting of the Stanislaus County Medical Association was held in the parlors of Hotel Modesto Friday evening, December 14th.

Preceding the meeting a dinner was given in the hotel dining-room.

Drs. Grant Selfridge, W. B. Coffey, J. H. Graves, and Prof. Thayer of San Francisco were present and read papers.

The officers elected for the ensuing year are as follows: President, Dr. E. F. Reamer, Modesto; vice-president, Dr. F. W. McKibbon, Oakdale; secretary-treasurer, Dr. F. R. DeLappe, Modesto; censors, Dr. S. W. Cartwright, Ceres (2 years); D. W. L. Wilson, Turlock (1 year).

Correspondence

SAN FRANCISCO COLLEGE OF PHYSICIANS AND SURGEONS.

December 17, 1917.

To the Editor:

On December 5, 1917, I accepted the position of Dean of the Medical Department of the College of Physicians and Surgeons of San Francisco, being vested with full power to make any change in the faculty or the conduct of the institution that I thought advisable; to install any apparatus or equipment that was necessary to properly carry on the work of the institution, or to make any other disposition of the institution that I thought advisable, providing such disposition took care of the students at present enrolled in the Medical Department, some sixty odd.

After a most careful consideration of the subject, I laid the matter before officials of the Medical Department of Stanford University and the University of California and offered to close the school forever if provision could be made by them in some way to provide for the students now enrolled in the school.

I received the most courteous consideration from these institutions, but unfortunately they could not see their way clear to undertake the task, even though the College of Physicians and Surgeons be temporarily completely reorganized and carry on most of the work to its close.

Just what course will be followed I cannot yet state. Unfortunately for the students, the element of time is all important as most of them are subject to the draft since the school was refused a Class B. rating by the Council of the A. M. A. and are being held only on temporary stays from the Draft Boards.

The position of many of these students is most pathetic and is deserving of serious consideration. The loss of time and money at this stage of their lives will be an irreparable blow to many.

The responsibility for the deplorable conditions existing in this Medical School rests as much with the State Board of Medical Examiners as with the management of the institution. The present predicament of the students arising from the draft could never have occurred had proper state laws been enforced.

Until the present time I have never been connected in any manner whatsoever with the College of Physicians and Surgeons. My attitude now in dealing with its affairs is that of an unbiased outsider.

Whatever is done by me in directing the work of this school will be done in the interest of the present enrolled students, taking carefully into consideration the obligations due to the community.

Yours very truly,

(Signed) HERBERT GUNN, M. D.

San Francisco.

January 3, 1918.

The Board of Trustees,
College of Physicians and Surgeons,
San Francisco, Calif.

Dear Sirs:

Since my appointment as Dean of the Medical Department of this institution on December 5, 1917, I have given most careful consideration to certain phases of its affairs with the object of effecting a reorganization of the medical school, which would meet with the approval of the authorities, and thereby permit the students now enrolled in the school to conclude their medical education.

After undertaking my work I soon became convinced that changes of a most radical nature were required, and that they would have to be accomplished in an incredibly short period of time in

order to stay the action of the War Department in taking a large number of the students in the draft. The prejudice of the medical profession against the College of Physicians and Surgeons is so deep-rooted that I found it impossible to obtain a staff of good men to fill the various departments under present conditions.

Stanford University, the University of California and Santa Clara University were appealed to, with the hope of developing some plan to care for the present enrolled students, but without avail.

One plan proposed entailed the carrying on of most of the medical work by the completely reorganized College of Physicians and Surgeons, the University acting as sponsor and filling in the gap with teachers where necessary; the College of Physicians and Surgeons to matriculate no new students and to close upon the graduation of the present classes. A reorganization of the staff under such sponsorship would have been a comparatively easy matter. Repeated endeavors in various other legitimate directions for support have also proved fruitless.

It has been suggested to continue the school, at least until the graduation of the present senior class, in the best manner possible, making as many beneficial changes as practicable under existing conditions.

I have given this plan of procedure most careful consideration, but I cannot see sufficient justification for carrying it out. In the first place, a considerable number of students will be lost in the draft, as no possibility of changing the rating of the College by the Council of the A. M. A. could be even remotely hoped for without most drastic changes being inaugurated, and no real benefit is to be expected if mediocre men are added to the staff or supplant men now occupying chairs. In the second place the students would gain but little by completing the year's work under present conditions and they could hope for but limited credit for work done here if they transfer to accepted schools, and if graduated from the institution in its present predicament it is questionable if it will be of any benefit to them.

It is my firm conviction that the ultimate interests of the students will be best served by the immediate discontinuance of the medical course, and an endeavor being made to provide for them in other ways.

While the students doubtless must share a part of the responsibility for their present unfortunate position for matriculating in a school widely advertised as of low rating, and, while, in my opinion, the State Board of Medical Examiners is culpable for not enforcing changes long ago which would have precluded the present entanglements, at the same time, you, as the trustees of this institution, are partly responsible. In view of your responsibility, I suggest that you aid these students in every way possible to enter other medical schools, or to get settled in other walks of life; that a material sum of money, at least as much as it would cost to carry on a year's work of the institution, be apportioned to the students according to the time they have spent in the school. Such financial assistance might make it possible for some of the students to continue their medical education elsewhere.

Very truly yours,

(Signed) HERBERT GUNN, M. D.

The letters above were submitted to the secretary of the State Board of Medical Examiners, who sends the following statement:

To the Editor:

The Special Committee of the Board of Medical Examiners, appointed for the purpose of investigating the College of Physicians and Surgeons of San Francisco, has made public its recommendations.

Until such time as an efficient Dean is selected by the Trustees, it would not be proper to discuss the affairs of the school with one who has been unsuccessful in rehabilitating the institution, or with one intolerant of constructive policies.

Respectfully yours,

CHARLES B. PINKHAM,
Secretary-Treasurer, State Board of Medical Examiners.

January 17, 1918.
San Francisco.

ORTHOPEDIC DUTY IN ENGLAND.

Alder Hey Hospital, Liverpool, Eng.

To the Editor:

Possibly your readers will be interested to hear about the work of the orthopedic men over here in the army.

The first contingent of 20 men crossed in May and was distributed in the English orthopedic hospitals. Baldwin went to Edinburgh, and is still there, doing good work. Abbott was at first in Edinburgh, but now is in London. The next contingent came in October and consisted of about 45 men, some of whom were experienced, but most were young men who must be trained for the work. McChesney went to France, I was sent here.

The whole orthopedic division in England is under Sir Robert Jones, the celebrated surgeon of Liverpool, and to him has been entrusted not only the reconstruction of the crippled men, but also the care and treatment of practically all injuries and diseases of the extremities, in the early as well as in the late stages, together with those injuries and diseases which heretofore have been considered to be in the domain of orthopedic surgery. He is constantly opening up new hospitals in England, Ireland, Scotland and Wales, and soon will have under his care about 15,000 beds. He is a man of remarkable skill and energy, and has the faculty of inspiring with enthusiasm those under him. Most of the Americans coming here are assigned to duty with him in the British Isles, and it is proposed to keep up a constant supply, so that, as some are trained in this new war work, they may be transferred to France and America, and others will take their place. Indeed, the need for training is great for us all, as the work is different from anything to which we have been accustomed, and we are compelled to work hard in order not to be found wanting. The demand for good men with surgical training is very great, and the opportunity is a wonderful one. Let me describe somewhat our hospital, Alder Hey, which is one of the largest, with its subsidiaries, and with Shepherd's Bush in London, one of the most celebrated.

Alder Hey is a modern collection of buildings, formerly a local government board hospital, which has been taken over by the government, and is situated about four miles from the center of Liverpool. It contains at present about 820 beds, and may be said to be the center of a group of hospitals constantly opening up in the vicinity. It is directly under the supervision of two Liverpool orthopedists, Armour and McMurray, two former assistants of Robert Jones, who have taken out captains' commissions in the British army. Under them are about eight men, British and Americans, each with two wards. The Americans as well as the others are under orders of the British surgeon-general. When we come, we spend a while observing and studying, and then gradually are fed into the machine. I began my work very shortly by taking over the wards of a man who was on vacation, then was given my own wards in Highfield, another hospital unit a mile away, which has been recently opened. This consists of 16 wards of 30 beds each, and with the exception of two wards, is in the charge of Americans. We have the privilege of calling on Captains Armour and McMurray for consultation, but we must shoulder

the responsibility. One of my wards is at present in immediate charge of a Canadian captain from a casualty clearing station, for the institution of the newer methods of wound treatment. Of these the most frequently employed are the Carrel treatment, and Rutherford Morrison's treatment with bismuth, iodoform and paraffine—"Bip." The results are astonishing, and are revolutionizing the treatment of compound fractures, and dirty old suppurating wounds of the soft parts. Instead of standing by and helplessly watching the patient fight it out with pus, we are enabled to interfere actively, and shorten the duration of the infection. With time, experience and a larger supply of assistants we hope to introduce these methods into the other wards. They require, of course, a larger staff, but from their time-saving attributes increase the "turn-over" of a hospital enormously. The Thomas knee splint, with its modifications has replaced practically all others in the treatment of fractures of the long bones.

Besides the treatment of those suppurating wounds a number of other things impress the newcomer. The first is, the great amount of nerve surgery. Where one sees one nerve operation at home, one sees 100 here. We have quite a remarkable nerve man to whom the patients are sent for localization and diagnosis of the lesion, and who calls the turn with great regularity. Then the nerve is sutured. The operation is rarely done until several months after the wound has closed, for fear of lighting up the old infection from the scar. To see some of these men dig out the nerve from the scar tissue is a beautiful thing, and then we all start in working on our anatomy. Any operation done at the site of the wound, within six months, is always preceded by a dose of tetanus antitoxin.

Another interesting branch of work is that upon tendons. These also must often be dug out of scar tissue, possibly enclosed in a fascia flap, and then sutured. Excisions of scars are frequent.

Bone grafting and ordinary open and closed fracture work come in for a large share of our attention. Functional disorders often simulate actual nerve lesions, and must receive their appropriate treatment. If any of us fancies abdominal surgery he will find a reasonable amount of that also.

The technic is different from ours, but has much that we might copy. Possibly there is less scrubbing of the hands before operation, but I should say that the fingers are less in the wound. The instrument nurse never touches the instruments, but handles them with forceps. No one may enter the operating room without a sterile gown, cap, mouth-guard and leggins which enclose the shoes and legs. This is in pleasing contrast to the somewhat free and easy customs of the visitor in our operating rooms. Military discipline prevails. We are under the direction of a lieutenant-colonel.

Two of our Americans are daily expecting transfer to other stations, and then our service probably will be doubled or trebled.

No one who comes over need fear that his ability will not be recognized. The opportunity is boundless. The difficulty is to measure up to our job, and to get away with the work that is offered us. We are treated generously, and are really right in the family. It is an experience that money could not buy before the war. If any of your readers with a good, modern surgical training wants a chance let them write to Major Elliott G. Brackett, Surgeon-General's Office, Washington, and make application. They would get a first lieutenant's commission, with a good prospect of promotion. Doubtless a man with chemical, bacteriological, or pathological leanings would find a chance to indulge his proclivities as a side line, to the advantage of himself, his associates and his patients. I have learned more in a few weeks than in a year. The enlarged view and the mental stimulus are not the least part of the work. No one seems in much of a hurry to go home. Our greatest loss possibly is the climate, but as most of the men are from the east, their loss is not considerable. As for me, I believe I should choose the Santa Clara Valley as a place of permanent residence. In any event we have not yet experienced the truth of Sherman's renowned saying. As a Frenchman once put it: "C'est magnifique, mais ce n'est pas la guerre."

Faithfully yours,

LEONARD W. ELY.

Military Medical News

CALIFORNIA PHYSICIANS IN NAVY MEDICAL SERVICE.

S: Surgeon.
P. A. S.: Passed Assistant Surgeon.
A. S.: Assistant Surgeon.
All U. S. N. R. F., except as marked U. S. N.

A. S.—Ainslie, C. A., U. S. N.
A. S.—Andrus, C. L., U. S. N.—San Diego Dist. Forces.
A. S.—Ashmore, F.—Headquarters, 12th N. Dist., Sheldon Bldg.
P. A. S.—Barnett, G. D.—Unit No. 2.
A. S.—Behlow, W. W., U. S. N.—Mare Island Navy Yard.
A. S.—Brown, C. E., U. S. N.
A. S.—Bryant, F. J.—417 Market St.
A. S.—Butler, E. W.—Unit No. 2.
P. A. S.—Barkan, H.
P. A. S.—Boardman, W. W.
P. A. S.—Boller, P.—Unit No. 3.
A. S.—Burke, E. E.—Unit No. 3.
A. S.—Baldwin, G.—N. R. T. C., San Pedro.
A. S.—Blake, W. P.—N. T. C., San Pedro.
A. S.—Brown, C. W.—Mare Island.
A. S.—Byrne, J. R., U. S. N.—Headquarters 12th N. Dist., Sheldon Bldg.
A. S.—Christiansen, R. C., U. S. N.—Mare Island.
A. S.—Connor, S. W.—N. T. Sta., San Francisco.
S.—Cochran, A.
P. A. S.—Charlton, A. T.—Unit No. 3.
P. A. S.—Clark, V. G.
P. A. S.—Cowan, J. R.—Unit No. 3.
P. A. S.—Cowan, J. F.
A. S.—Chamberlain, H. H.—Unit No. 2.
A. S.—Chamberlain, W. E.—Unit No. 2.
A. S.—Cohn, M. L.—N. R. T. C., San Pedro.
A. S.—Cook, E. P.—Mare Island Navy Yard.
A. S.—Corey, D., U. S. N.—U. S. S. Schurz, care P. M.
A. S.—Crosian, J. W.—Unit No. 3.
A. S.—Ducher, J. E.—Mare Island Navy Yard.
A. S.—Donnell, R. H.—Naval Air Station, San Diego.
A. S.—Dorn, N. F.—N. T. C., San Diego.
A. S.—Duncan, H. B.—417 Market St.
A. S.—Dunn, T. B.—Manila, P. I.
A. S.—Davis, B. P., U. S. N.—Mare Island Navy Yard.
A. S.—Dickson, A. R.—Unit No. 3.
A. S.—Fielder, R. L.—Mare Island Navy Yard.
S.—Frick, J. D.
P. A. S.—Fredericks. D. D.
A. S.—Goetsch, A.—U. S. T. C., San Francisco.
A. S.—Goss, O. R.—Mare Island Navy Yard.
A. S.—Guinan, E. R., U. S. N.—Guam.
P. A. S.—Gilman. P. K.—Unit No. 2.
A. S.—Harman, B. M.—Mare Island Navy Yard.
A. S.—Herren, D.—U. S. N. Hosp., Las Animas, Colo.
A. S.—Holzberg, H. L.—N. T. S. T., San Francisco, Cal.
A. S.—Horner, R. W., U. S. N.—Unit No. 3.
A. S.—Hughes, F. A.—Mare Island Navy Yard.
S.—Hewlett, A. W.—Unit No. 2.
S.—Hill, H. P.

A. S.—Hammond, T. V.—Recruiting Sta., San Diego, Cal.
A. S.—Harvey, J. E., U. S. N.—N. T. C., San Pedro, Cal.
A. S.—Horner, W. D., U. S. N.—Unit No. 2.
A. S.—Hunt, R. H.—N. R. T. C., San Pedro, Cal.
P. A. S.—Inman, J. C.—Unit No. 2.
A. S.—Jacobs, Jay, U. S. N.—Naval Aux. Reserve, Ferry Bldg.
A. S.—Josephs, L.—Unit No. 3.
A. S.—Keene, W. P.—Marine Barracks, San Diego.
A. S.—Kris, R. E., U. S. N.—Mare Island Hospital.
A. S.—Krummes, H. P.—U. S. S. Gulfport.
A. S.—Lengenfelter, G. P.—Navy Recruiting Sta., Denver, Colo.
A. S.—Long, T. F.—Mare Island, Navy Yard.
A. S.—Lund, Leval—N. T. C., San Diego, Cal.
P. A. S.—Langnecker. H. I.—Unit No. 2.
A. S.—Linde, F. G.—Mare Island Navy Yard.
A. S.—Lorentz, R., Jr., U. S. N.
A. S.—Lundegaard, E. M.
A. S.—McCune, R. A.—Navy Recruiting Sta., Salt Lake.
P. A. S.—Miller, J. E.—Navy Recruiting Sta., Sacramento.
A. S.—Milligan, C. F.—Mare Island Navy Yard.
A. S.—Minaker, A. J.—N. T. S., San Francisco, Cal.
A. S.—Muller, Fredk. W.—N. T. C., San Diego, Cal.
P. A. S.—Morton, L. D.—Unit No. 3.
A. S.—McCarthy, F. J., U. S. N.
A. S.—McNab, J. R.
A. S.—McNulty, A. H.—N. T. S., San Francisco, Cal.
A. S.—Moore, J. R.
A. S.—Mullally, E. F., U. S. N.
A. S.—Miller, F. W.—Unit No. 3.
P. A. S.—McKee, A. B.
A. S.—Olds, W. H.—Unit No. 3.
A. S.—O'Neill, B. J.
A. S.—Owen, B. J.
A. S.—Parkin, V.—Unit No. 3.
A. S.—Pomeroy, E. S.—Mare Island Navy Yard.
A. S.—Price, M. J.—Mare Island Navy Yard.
A. S.—Pillmore, G. V.—Mare Island Navy Yard.
A. S.—Ragle, H. E.—N. T. S., San Francisco, Cal.
A. S.—Runner, J. F.—Mare Island Navy Yard.
A. S.—Rodenbaugh, F. H., U. S. N.—N. T. S., Pearl Harbor, T. H.
A. S.—Pruett, J. F., U. S. N.—U. S. S. Venetia.
A. S.—Reed, A. C.
A. S.—Reuling, J. R., U. S. N.—Mare Island Navy Yard.
A. S.—Ruddock, J. C., U. S. N.—Mare Island Navy Yard.
A. S.—Ryan, R. C.—N. R. T. C., San Pedro.
S.—Rixford, E.
P. A. S.—Richardson, W. W.
A. S.—Searles, H. H., U. S. N.—Mare Island Navy Yard.
A. S.—Sooy, D. W., U. S. N.—Mare Island Navy Yard.
A. S.—Spalding, O. B.—N. R. T. C., San Pedro.
A. S.—Stadtherr, E. F.—Mare Island Navy Yard.
A. S.—Schmidt, A. E., U. S. N.—Mare Island Navy Yard.
S.—Stillman, S.—Unit No. 2.
P. A. S.—Schaller, W. F.
A. S.—Saverin, A. E.—Mare Island Navy Yard.
A. S.—Schwartz, J. L.—Unit No. 3.
A. S.—Taylor, J. C. W.—U. S. S. Ajax.
A. S.—Teter, H. H.—Navy Recruiting Sta., Salt Lake.
P. A. S.—Tebbe, W. E.—Unit No. 2.
P. A. S.—Thorne, I. W.—Unit No. 2.
P. A. S.—Tupper, R. B.—Unit No. 2.
A. S.—Thomas, R. W.—U. S. S. Buffalo.
A. S.—Thompson, H. A.—N. R. T. C., San Diego, Cal.
A. S.—Viau, B. H.—Submarine Base, San Pedro.
A. S.—Visalli, J.—Mare Island Navy Yard.
P. A. S.—Voorhees, H. M.
A. S.—Wier, T. F.—Submarine Base, San Pedro, Cal.
P. A. S.—Williams, J. M.—Unit No. 2.
S.—Baker, M. W.—12th Naval Dist., Headquarters Room 405, Sheldon Bldg., San Francisco.
Castlehun, Paul—N. N. V.
Leland, T. B. W.—N. N. V.

WEEDING OUT INCOMPETENT OFFICERS.

Surgeon General of the Army, William C. Gorgas, has ordered that steps be taken for the elimination from the service of all incompetent medical officers. In this category will be placed officers not fully qualified to perform their duties because of mental and physical incapacity, bad habits, or laziness. Officers assigned to duties that they can not competently perform because of unsuitable previous training, will be transferred and tried in other positions. If then unable to do satisfactory work, they will be reported to the Surgeon General as unfit and sent before a board with a view to their discharge from the service.

Recognizing that a proportion of medical officers are not fully qualified to perform their duties because of physical disability, mental incapacity, temperamental unfitness, laziness, inability to command men, lack of education or proper training, all division surgeons, commanding officers of base hospitals and other medical officers having subordinates are directed to list those whose work has not been satisfactory. If mental incapacity is suspected, psychological examinations will be given to determine the fact. Systematic instruction in military hospitals is recommended to remedy incompetency due to poor training in the technic of professional work. The medical officers' training camps are relied upon to correct deficiencies other than professional incapacity.

Medical officers who have been transferred will be given proper instruction in their new work and will not be discharged from the service until their superiors are convinced that they can not become competent within a reasonable time. No action for discharge will be taken until they have failed in two lines of work—viz., the professional care of the sick and disabled and medical field work, the latter including camp sanitation, handling of men, first aid and transportation of wounded.

NAVY CALLS FOR BINOCULARS.

The Navy is still in urgent need of binoculars, spy-glasses and telescopes. The use of the submarine has so changed naval warfare that more "eyes" are needed on every ship, in order that a constant and efficient lookout may be maintained. Sextants and chronometers are also urgently required.

Heretofore, the United States has been obliged to rely almost entirely upon foreign countries for its supply of such articles. These channels of supply are now closed, and as no stock is on hand in this country to meet the present emergency, it has become necessary to appeal to the patriotism of private owners, to furnish "eyes for the Navy."

Several weeks ago, an appeal was made through the daily press, resulting in the receipt of over

3,000 glasses of various kinds, the great majority of which has proven satisfactory for naval use. This number, however, is wholly insufficient, and the Navy needs many thousands more.

All articles should be securely tagged, giving the name and address of the donor, and forwarded by mail or express to the Honorable Franklin D. Roosevelt, Assistant Secretary of the Navy, care of Naval Observatory, Washington, D. C., so that they may be acknowledged by him.

Articles not suitable for naval use will be returned to the sender. Those accepted will be keyed, so that the name and address of the donor, will be permanently recorded at the Navy Department, and every effort will be made to return them, with added historic interest, at the termination of the war. It is, of course, impossible to guarantee them against damage or loss.

State Board of Medical Examiners

EXCERPTS FROM OPINIONS OF LEGAL DEPARTMENT.

Examiner for insurance company—not practising.

"An applicant has called at my office to obtain my opinion as to whether or not the occupation he is about to engage in requires a license to practice medicine within the State of California.

"The applicant is admitted to practice medicine in another state or states in the Union, but has not been admitted to California.

"He wants to act for a hospital association in both examining personally applicants for health and other matters of insurance and reporting to the company, and also in passing upon reports of other doctors who take examination in other places.

"The applicant does not intend to in any way treat the sick or afflicted, but simply to find out for the purposes of insurance as to whether or not they are sick or afflicted, or safe or dangerous risks. I do not feel that that requires any certificate.

"It is true it has been decided that the examination and diagnosis of disease are first steps in practicing medicine, but those cases were decided only when the practitioner went farther and prescribed or treated the patient. Consequently, I advise you that you may take the position that the applicant does not require a license for the work he professes to do."—(Excerpt from letter of Attorney to Board, April 10, 1913.)

Subdivision 12—unprofessional conduct—commission.

"The giving of a commission by a licentiate of the Board of Medical Examiners of this state could be legally construed as a violation of the provision of subdivision 12 of section 14 of the Medical Practice Act."—(Excerpt of letter of Attorney to Licentiate, February 5, 1916.)

Massage.

"Anyone in this state who diagnoses, treats, operates or prescribes for any disease, injury or deformity, is guilty of violating the Medical Practice Act, as may be more specifically noted from a reading of section 17 of the Medical Practice Act, which is enclosed herein; however, one may massage and not violate the law; i. e., if there is simply a rubbing of the body with no profession on the part of the rubber that the treatment will cure or aid an affliction or deformity, it is not a violation of the act. If, on the other hand, the manipulator or rubber pretends to cure, or assist in curing, or professes to remove the cause of disease, injury or deformity, etc., then it is a practice of a system, no matter what method may be used in such practice or treatment. In brief, any one who operates, diagnoses, treats, or prescribes, is practicing a system under this theory."—(Excerpt of letter of Attorney to Licentiate.)

New Members

McClelland, J. H., San Francisco.
Downes, Chas. S., San Francisco.
Sewall, Chester D., San Francisco.
Parker, Ashley S., Needles.
Jackson, James A., San Diego.
Bryan, Geo., Fullerton.
Slaughter, K. J., Folsom City.

Resigned

Mize, G. H., San Francisco.
Pratt, J. P., San Francisco.

Transferred

Rogers, J. B., Napa, from Placer Co.

Deaths

Benjamin, F. W., of Alameda, Cal.; Berkshire Med. Coll., '60, (C) '81; a veteran of the Civil War; died at his home, 2139 Buena Vista Ave., Dec. 23, 1917, aged 83.

Finley, Theodore Gawn, Los Angeles; University of Southern California, Los Angeles, 1908; a fellow of the American Medical Association; formerly assistant superintendent of the Los Angeles County Hospital; surgeon of the Los Angeles Gas and Electric Corporation; died at the Sisters' Hospital, Los Angeles, Dec. 17, 1917, aged 42.

Burns, Matilda Watson, died in San Francisco, Dec. 25, 1917, aged 64; cause, cerebral hemorrhage. She was a graduate of the Cooper Medical College and had practiced medicine and conducted a drug store in San Francisco for over thirty years.

Dow, Phineas K., of San Jose; St. Louis Med. Coll., '80, (C) '86; died Dec. 11, 1917, aged 82.

Mertzman, B. F.; Hahnemann Med. Coll., Philadelphia, Pa.; died in San Diego, Cal., July 23, 1916, aged 61.

Reed, William Boardman, M. D., Alhambra, Cal.; University of Pennsylvania, Phila., 1878; aged 75; formerly a Fellow of the American Medical Association; a veteran of the Civil War, and a well-known specialist on diseases of the digestive system; for many years a resident of Atlantic City, N. J.; at one time a member of the editorial staff of the Philadelphia Press; who went to California on account of ill-health in 1909, and suffered a cerebral hemorrhage in 1913; died at his home, October 31.—A. M. A. Jour., Dec. 1, 1917.

Claire, W. Murphy, M. D., Los Angeles; University of California, Los Angeles, 1891; aged 47; formerly a Fellow of the American Medical Association; a member of the Medical Society of the State of California; instructor in anatomy in his alma mater; died at his home, Nov. 24.—A. M. A. Jour., Dec. 15, 1917.